

# Evaluative tools for improving campaign effectiveness



ROOT CAUSE  
ANALYSIS (RCA)



RAPID EVALUATION,  
ACTION, AND  
LEARNING (REAL)



## *Executive Summary*

Public health campaigns aim to control disease or deliver essential health services and products through time-limited and periodic channels. Many countries use campaigns to augment or replace routine service delivery, to target certain populations, or to accelerate progress towards coverage targets. In Africa, approximately two thirds of countries held at least four campaigns in 2018 and 40 percent of countries held seven or more.

However, despite the extensive investment in campaigns and their contribution to universal coverage of high-impact services and products, there has been limited effort to systematically refine and improve campaign approaches, or learn from what is working, and what is not, to inform investment and operational decision-making.

These companion toolkits present a systematic but flexible approach to identifying the root causes of campaign bottlenecks and then designing, testing, and refining solutions to optimize potential impact. These toolkits—[Root Cause Analysis \(RCA\)](#) and [Rapid Evaluation, Action, and Learning \(REAL\)](#)—respond to a growing need for “fit-for-purpose,” rapid-testing, adaptive learning approaches to evaluation and the need for a culture shift toward iterative adaptation and improvement that integrates measurement and evidence-informed decision-making into daily practice. Such an approach supports moving toward an ethos of “failing fast,” understanding what works (or not), and removing interventions that are less promising.

The RCA and REAL toolkits draw on these ideas, applying them to health campaigns and detailing a framework that encompasses problem-solving skills that enable an implementer to identify problems, analyze their root causes, design and implement corrective interventions, and assess the impact of the corrective interventions. The toolkits guide the user through the process of identifying and analyzing challenges as well as through rapid evaluation of interventions, continuous learning, and improvement. Although geared toward improving campaign effectiveness, the rapid evaluation approach is also applicable to other areas.



**Toolkit 1 Root Cause Analysis** takes the learner through the process of identifying critical campaign challenges and diagnosing bottlenecks in five key steps:

- ➔ Identifying campaign issues or bottlenecks.
- ➔ Defining the challenge (or success).
- ➔ Developing a RCA diagram by working backward from the key challenge and asking “Why?” until the root cause(s) are identified.
- ➔ Validating the RCA through a participatory and iterative process.
- ➔ Identifying the most impactful and actionable root causes.



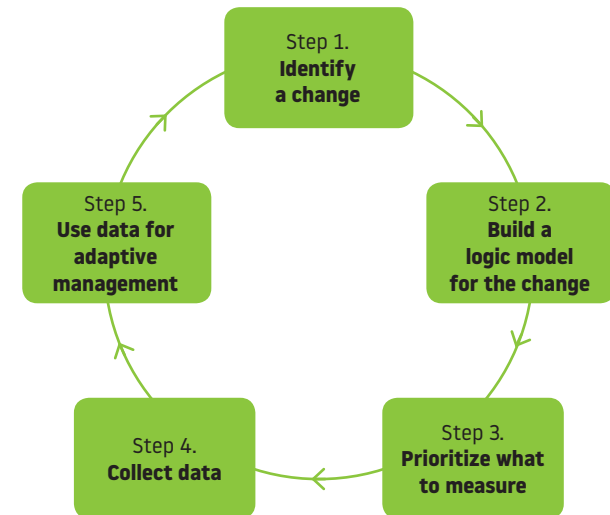
**Toolkit 2 Rapid Evaluation, Action, and Learning** illustrates the practical aspects of iteratively and continuously adapting interventions to improve the effectiveness of campaigns using a rapid cycle testing and evaluation approach. Toolkit 2 guides the learner through five key steps, namely:

- ➔ Identifying a change to address a challenge or challenges.
- ➔ Building a logic model for the change.
- ➔ Prioritizing what to measure.
- ➔ Collecting data.
- ➔ Using data for adaptive learning.

Toolkit 2 proposes focused measurement around evidence required for strategic decision-making through a prioritization process anchored on two critical questions:

01. What information do decision-makers need to scale up or scale down?
02. Where is there the greatest uncertainty?

Combining the answers to these two questions will enable the prioritization process. Once you know what you want to collect, a data collection plan with indicators and tools can be developed and implemented rapidly. Finally, data is analyzed, interpreted, shared, and used to answer strategic questions about a campaign change.



Together these toolkits help with identifying where the challenges are and then designing a rapid evaluation approach to test solutions to address the challenge.

# Root Cause Analysis

*Identifying critical campaign  
challenges and diagnosing bottlenecks*



# Identifying critical campaign challenges and diagnosing bottlenecks



## Primary users & target audience



- **Ministry of Health:** Monitoring and Evaluation (M&E) Officers and Program Managers (such as Expanded Program on Immunization [EPI] managers) with in-depth knowledge of key processes who can zero in on where things may be off track.
- **Non-Governmental Organization and Technical Partners:** M&E staff providing technical assistance or oversight to campaign planning and execution.

## Learning objectives



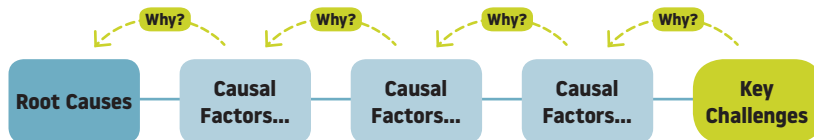
- **By the end of this toolkit, users should be able to:**
  - » Understand and describe a common approach to identifying challenges or bottlenecks that may be limiting the effectiveness of a campaign.
  - » Perform a root cause analysis to determine what's causing the challenge or bottleneck.
  - » Assess and prioritize root cause(s) that are actionable.

## Introduction to Root Cause Analysis: An approach for identifying underlying causes of key challenges

### What is root cause analysis (RCA)?

RCA is a method of problem solving to identify the underlying causes of key process challenges. A root cause is a key factor in a causal chain of events that once removed from the problem sequence, prevents the final undesirable event from occurring or recurring (Figure 1). RCA is a tool for learning from observed bottlenecks and mitigating them in the future, as well as learning from successes and promoting best practices. The goal of RCA is to determine what happened, why it happened, and what should be done to improve the process. Therefore, RCA is a useful approach for moving beyond understanding *what* and *how* an event occurred to understanding *why* it happened. RCAs can be used to generate and organize in-depth questions that require follow-up through further data collection, meaning that RCAs are often developed through iteration and additional data triangulation as new data is collected and analyzed.

**Figure 1. Example of RCA chart.**



## Overview of key steps: Identifying and diagnosing bottlenecks to campaign effectiveness

This toolkit is organized into a series of five steps that center around identifying and diagnosing critical campaign challenges and associated bottlenecks, analyzing their root causes, and prioritizing and addressing the most actionable root causes that can be addressed through further intervention. The recommended steps include:

- ➔ **Step 1:** Identify campaign issues or bottlenecks.
- ➔ **Step 2:** Define the problem or challenge (or success).
- ➔ **Step 3:** Chart the RCA diagram.
- ➔ **Step 4:** Validate the RCA through iterative and participatory processes.
- ➔ **Step 5:** Identify the most impactful and actionable root causes.

Each step includes a description and rationale for performing the step, along with tips and considerations for best practices in performing each step. This is followed by a case example to illustrate how the step could be performed or operationalized within a real-world setting in the Democratic Republic of the Congo (DRC). Before launching into the steps, first we provide a short overview of our case example which centers on DRC's Human African Trypanosomiasis Elimination Initiative.



### Case Example Overview: DRC's Human African Trypanosomiasis Elimination Initiative

Human African trypanosomiasis (HAT), also known as sleeping sickness, is a vector-borne disease transmitted by the bite of tsetse flies carrying *Trypanosoma brucei* protozoan parasites<sup>1</sup>—if left untreated, HAT is often fatal. Although HAT is endemic to 36 countries in Sub-Saharan Africa, over 98 percent of cases occur in West and Central Africa from the *T. b. gambiense* parasite sub-species, and over 70 percent of reported cases are found in the Democratic Republic of the Congo (DRC), where an estimated 53 percent of the population lives in areas considered at-risk for HAT infection.<sup>1,2,3</sup> The World Health Organization (WHO) is leading global efforts to eliminate HAT by 2020, with an elimination strategy that hinges on interrupting the disease transmission cycle through broad testing and treatment of people living in areas of risk—an approach supported by the development of new rapid diagnostics for detecting HAT<sup>4</sup> and registration of Fexinidazole, the first all-oral drug that treats all stages of the disease.

In line with DRC's commitment to the London Declaration on Neglected Tropical Diseases, the Ministry of Health and the National Control Program for Human African Trypanosomiasis (PNLTHA) developed a National Strategic Plan to eliminate HAT by 2020. The strategy draws upon new tools and technologies, including: rapid diagnostic tests, insecticide-treated traps for tsetse fly vector control, an awareness-raising advocacy campaign, digital technology for finding and confirming new cases, and mini-mobile teams to provide door-to-door HAT screening in high-risk areas of remote provinces.<sup>5</sup> The new approaches appear to be working to bring the country closer to elimination: the latest data indicates the number of HAT cases in DRC declined from 1,200 in 2017 to 650 in 2018.<sup>6</sup>

However, aspects of the HAT elimination initiative in DRC have faced numerous challenges that have required problem solving and subsequent implementation tweaks. In addition, a consortium of international partners has supported the development and introduction of innovative approaches to improve the effectiveness of the HAT elimination strategy.

DISCLAIMER: While the DRC did not utilize the steps described in this RCA toolkit, we adapted this case as a *hypothetical scenario* for applying each step of the toolkit. By drawing on DRC's experience in problem solving and design of approaches to address challenges facing HAT campaign implementation, we focus on determining why the HAT campaign was not on track to meet the elimination targets. This case example is revisited throughout each step to highlight how to operationalize the guidance in identifying and diagnosing key challenges and bottlenecks, determining their root causes, and assessing which root cause(s) are most actionable to improve the quality and effectiveness of the HAT elimination initiative.

## Identify campaign issues or bottlenecks

Start by brainstorming observed challenges, issues, or bottlenecks related to the campaign. These might be observed through routine or non-routine data (e.g., a post-campaign coverage survey identifies that the coverage target was not reached) or through supervision visits during the campaign (e.g., monitoring staff were unsure of how to use the routine monitoring forms and entered data incorrectly; or social mobilization and communication activities were delayed in starting). Your team will likely identify multiple challenges, issues, or bottlenecks.

### Tips and considerations

- Routine process and outcome indicators that measure campaign progress and achievements can be helpful in articulating critical issues and bottlenecks, as well as for pinpointing at what level of the health system the challenges occur.
  - See [Annex 1](#) for illustrative indicators and data sources for campaign effectiveness and efficiency. In addition, refer to WHO's supplementary immunization activity (SIA) field guide for indicators and common challenges when planning and implementing immunization activities.<sup>7</sup>
  - Organizing evidence and related issues/bottlenecks into a structured table is a helpful precursor to assessing and defining the overall challenge or problem in Step 3 (see [Annex 2](#) for blank template). Additional rows and columns can be added to the table to list gaps in evidence and make plans for further data collection or verification if needed.
- Consider categorizing issues and bottlenecks by common implementation research domains to help in recognizing where the challenges are concentrated. Common domains include:
    - » Planning
    - » Funding
    - » Human resources
    - » Disease/health context
    - » Logistics management
    - » Data and M&E
    - » Leadership, management, and coordination
    - » Campaign design/intervention characteristics
    - » Population/patient characteristics
    - » Advocacy and social mobilization
    - » Contextual factors
    - » Social determinants of vaccination





## DRC Case Example | STEP 1. Identify campaign issues or bottlenecks

DRC's Ministry of Health and international partners are concerned that the country may not be on track to achieve their HAT elimination targets by 2020—but the question is *why* and *what can be done to accelerate progress*? As the first course of action in answering *how* the HAT elimination initiative could be improved, the Ministry of Health appoints a program manager from an implementing partner to assess the major issues and bottlenecks. The program manager is involved in managing the logistics for several of the HAT elimination approaches and additionally has been serving on the technical working group that oversees neglected tropical diseases; she is therefore already aware of many issues and bottlenecks but has not systematically examined them. The following bullets summarize how the program manager can move forward with the assessment:

- » First, review and take stock of the available information and evidence related to issues that may be affecting HAT elimination approaches. This information is likely to come from a mix of data sources, such as observation, personal knowledge, document review (e.g., meeting minutes of Technical Working Group sessions), monitoring and evaluation reports, indicator assessments, stakeholder perceptions, etc. An individual or group can begin this step by rapidly listing relevant information and evidence currently known, even though some elements may require verification and/or further data collection may be necessary.
- » Next, organize the list of key information and evidence, the related issues or bottlenecks, and the associated implementation domain(s) into a structured table (see Annex 2 for a blank template).
- » In Table 1, the program manager summarizes the key information about aspects of the DRC HAT elimination initiative (first column) and provides a succinct summary of the associated issue or bottleneck if it is known (second column). The key information and evidence are likely to cover numerous implementation domains (third column) and by determining these domains, one can begin identifying patterns in where bottlenecks arise and hone in on the key challenge(s) (Step 3). Data sources are also listed (fourth column).

In summary, the program manager identified the following key information and evidence:

- » Based on reports from field staff supervisors, late and incorrect payments to HAT mobile team staff may be resulting in observed low levels of motivation and increased rates of absenteeism.
- » Interviews with provincial level authorities indicate roughly 20 percent of villages are unknown (unmapped), and therefore not included in HAT mobile team itineraries.
- » Village locations can be hard to identify due to a reliance on handwritten maps not drawn to scale.
- » Mobile teams do not regularly incorporate monitoring data into microplanning and route planning decisions, in part due to difficulties in working with paper-based data.
- » To date, HAT elimination approaches have largely focused on clearing the human reservoir of the parasite.
- » Confirmatory testing to determine positive HAT diagnosis has been inconsistent.

**Table 1. Data gathered to help define the challenge statement: HAT elimination target not on track.**

<b>Key information &amp; evidence related to HAT elimination approaches</b>	<b>Observable issues or bottlenecks</b>	<b>Implementation domain</b>	<b>Data sources</b>
HAT campaign staff do not get paid on time nor in the proper amount	Low motivation; Increased absenteeism	Human resources	Observation; Finance records
20% of villages are unknown, e.g., not included in campaign itineraries	Inefficient route planning/targeting	Planning	Observation; Interviews
Campaign Design	Observation; Interviews	Planning; Campaign Design	Existing maps; Observation
Handwritten maps of village locations are not drawn to scale	Inefficient route planning/targeting	Planning	Mobile team M&E data
Campaign Design	Existing maps; Observation	Disease/Health Context	Vector control data
Monitoring data not being used for mobile team targets or microplanning	Inefficient route planning/targeting	Data/M&E	Mobile team M&E data
HAT treatment and prevention efforts focus on clearing human reservoir	Tsetse fly as continued transmission reservoir	Disease/Health Context	Vector control data
Limited confirmation of positive diagnosis	Quality of diagnostic abilities	Management; Coordination	Observation; Diagnostic data

## Define the key problem or challenge (or success)

In defining the key problem or challenge, it helps to examine your list of challenges and try to identify the challenge that is most closely related to the desired outcomes or impact—this will generally be the most appropriate challenge statement. For example, if measles outbreaks continue to occur after a measles campaign, your challenge statement could be “Measles outbreaks continue to occur.” If you do not know anything about disease impact but know that campaign coverage was lower than anticipated, “low coverage” could be the key challenge statement. This same approach can also be undertaken for identifying key successes: although challenges are most often the focus of RCAs (Step 4), developing RCAs around successes can be an important approach for learning and sharing best practices.

### Tips and considerations

- ➔ Articulating key challenges (or successes) is one of the most critical steps: Use of plain language can help to ensure clear articulation and understanding of the challenge (or success) by the evaluation team and relevant stakeholders.
- ➔ If you identify multiple challenges, it is likely some challenges will fall along the causal pathway between root cause and overall challenge, which will become apparent in charting the RCA (Step 3).
- ➔ If you identify multiple potential challenge statements, we suggest prioritizing the challenges according to which seem most actionable to address. There are several suggested parameters to consider in determining actionability (see Figure 4 in Step 5 for more detail on each parameter):
  - » Locus of authority/span of control
  - » Acceptability of altering the status quo
  - » Policy or program window
  - » Technical feasibility
  - » Health system level
  - » Cost and budget implications



## DRC Case Example | STEP 2. Define the key problem or challenge (or success)

As listed in Table 1 above, there are numerous issues and bottlenecks contributing to the overall problem that DRC is not on track to meet their HAT elimination target by 2020. *The question is why are they not on track?* In this step, we revisit the DRC program manager as she examines the key information and evidence which can help in defining the key challenge(s) contributing to the overall problem.

- » First, re-examine the key information, evidence, and the associated issues or bottlenecks. *Do the issues or bottlenecks point to any overarching challenges?* The program manager reviews the implementation domains to begin identifying patterns in where bottlenecks arise and to help distill the key challenge(s).

From the available evidence, the program manager notes:

- » Several bottlenecks suggest inefficient route planning and targeting by HAT mobile teams.
- » Variability in quality of diagnostic abilities coupled with low staff motivation also suggests a challenge with correct diagnosis of HAT.
- » The emphasis on treatment and prevention to clear HAT from the human reservoir fails to address the disease reservoir among tsetse flies, thereby contributing to ongoing HAT transmission to humans.

Taken together, these bottlenecks point to two key challenges that drive the overall problem that DRC does not appear on track to meet the HAT elimination target by 2020, including:

- » (1) Missed opportunities for HAT case diagnosis and treatment.
- » (2) Persistent tsetse fly reservoirs for HAT transmission.

## Chart the RCA diagram

RCA typically use a schematic chart for visualizing and documenting assumed causal chains. RCA charting works backwards from the prioritized challenge through observed process events (assumed causal factors) to arrive at the most likely and reasonable root causes. Many formats can be used to construct the RCA chart, but we recommend a flow chart for simplicity.

RCA is grounded in critical discussion and interpretation by the evaluation team; therefore, collective brainstorming among team members on the causes of a key process challenge is an essential aspect of developing the RCA. It is important to assemble a group with diverse perspectives and practical implementation experiences related to campaign. Probes such as **Who**, **What**, **Where**, **When**, and **How** questions can help the group to retrospectively assess challenges, bottlenecks, and the underlying root causes (the “why”). For example, questions may include:

- *Who* were the stakeholders involved?
- *What* information was available to key stakeholders?
- *Where* did the challenge or problem happen? And *How* widespread was it?
- *When* did this challenge or problem happen?
- *How* well were procedures carried out?

In addition, we recommend the ‘5 whys’ technique as a simple quality improvement tool for generating ideas about the underlying *Why* (e.g., the root cause). The premise is that by asking why five times you will gain a greater understanding of what is ultimately causing the challenge or problem as well as generate ideas for potential solutions to address the root cause(s). Criticism of the ‘5 whys’ approach suggests an oversimplification of the problem-solving process and a narrow focus along a single causal pathway.<sup>8</sup> Period should go before the footnote. However, given the complex health system environment within which campaign activities are carried out, more than likely the root cause diagram will include multiple causal chain branches leading to a set of root causes rather than a single root cause. As illustrated in the DRC RCA example below, determining the ‘*Why*’ often requires drawing on multiple types of data and perspectives from various stakeholders with in-depth knowledge of the process and key challenges.

## Tips and considerations

- The most important question to keep asking is ‘why?’<sup>9</sup> The ‘5 whys’ line of inquiry is a simple tool to help lead you to identifying the root cause(s).
- If you have a process map or theory of change for the campaign, this can be used to help generate hypotheses or ideas for why the observed challenge might have occurred.
- It helps to put everything down on paper and then investigate further. Therefore, do not worry too much about the details as you are working through the initial RCA diagram. We are working in complex systems and messy is okay!
- Starting the RCA chart on paper is recommended, after which the draft RCA can be transferred to PowerPoint or other similar tools for digital sharing and further iteration as additional data is collected and new insights generated.
- Charting out the RCA can help to shape additional data collection needs and to rule out hypotheses systematically.
- Along with RCA examples described below, please see RCA for Beginners<sup>10</sup> for additional RCA diagram examples.

RCA's are increasingly used in public health and international development settings for structural and process improvement purposes. Before moving to the DRC case, see below for two vaccine-related examples where RCA was used to identify challenges and their root causes.<sup>11,12</sup>

### EXAMPLE

## 01

### Using RCA to assess causes of challenges to implementation of Gavi's health systems strengthening support in Cameroon and Chad.

An RCA was performed using multiple sources of data (interviews, observations, documents, questionnaires, financial records) to understand the underlying causes of key challenges to implementing Gavi's health systems strengthening (HSS) investments. Programs in both Cameroon and Chad experienced delayed disbursements, deviations from approved expenditures, and reprogramming of investments which resulted in only partially implemented activities at the district and health facility level and overall low absorption of funds. Through RCA several root causes were identified, including: poor communication between Gavi and countries; unpredictable disbursements from Gavi; insufficient planning within countries along with inadequate technical support; overall weak country financial management systems; and poor leadership. By identifying these root causes, solutions were developed to mitigate the challenges during future cycles of implementing Gavi HSS support.

*Source: Dansereau et al. (2017). Challenges to implementing Gavi's health system strengthening support in Chad and Cameroon: results from a mixed-methods evaluation. Globalization and Health 13:83.*

## Using RCA to determine causes of cold chain equipment failure in Uganda and Mozambique.

A total of 86 failed refrigerators and freezers were investigated to determine the root causes of cold chain equipment failure, which included a common fault with cooling units for a specific refrigerator model, solar powered refrigerators with batteries unable to hold charge, and other issues related to thermostat setting adjustment needs. This case study demonstrates the use of RCA for sharing information and developing actionable recommendations relevant to multiple stakeholder groups, including: ministries of health, technicians, equipment manufacturers, and international partners including UNICEF, GAVI, and WHO.

*Source: Lennon et al. (2017) Root cause analysis underscores the importance of understanding, addressing, and communicating cold chain equipment failures to improve equipment performance. Vaccine 35 (17): 2198-2202.*



### DRC CASE EXAMPLE STEP 3

## DRC Case Example | STEP 3. Chart the RCA diagram

With two challenge statements identified in Step 2, the next step is to chart out the RCA. Developing an RCA is an iterative process: the initial RCA diagram will be messy and require further reorganization, but rapidly plotting the chart helps to identify early hypotheses as well as where more information is necessary.

The program manager assembles a team of HAT colleagues from her organization and using a white board works backwards from the key challenge statement asking ‘why’? Based on existing knowledge and evidence, they build out the RCA through focused analysis of the likely reasons for missed opportunities for HAT case diagnosis and treatment. The immediate causes are hypothesized to be inefficient mobile campaign route planning and targeting, reduced HAT mobile team effectiveness, and the overall quality of HAT diagnostic abilities. The next step is to keep asking ‘why’ until the full causal chain is mapped out and a root cause is identified. Many of the issues or bottlenecks identified in Table 2 show up along the causal pathway but are not ultimately the “root cause” of the key challenge. The program manager repeats the process of asking ‘why’ there are persistent reservoirs of tsetse flies which contribute to ongoing HAT transmission to humans. The RCA suggests two root causes: there is stronger political will for screening and treatment approaches than for vector control; and vector control efforts have been hampered by poor data availability and mapping of reservoirs.

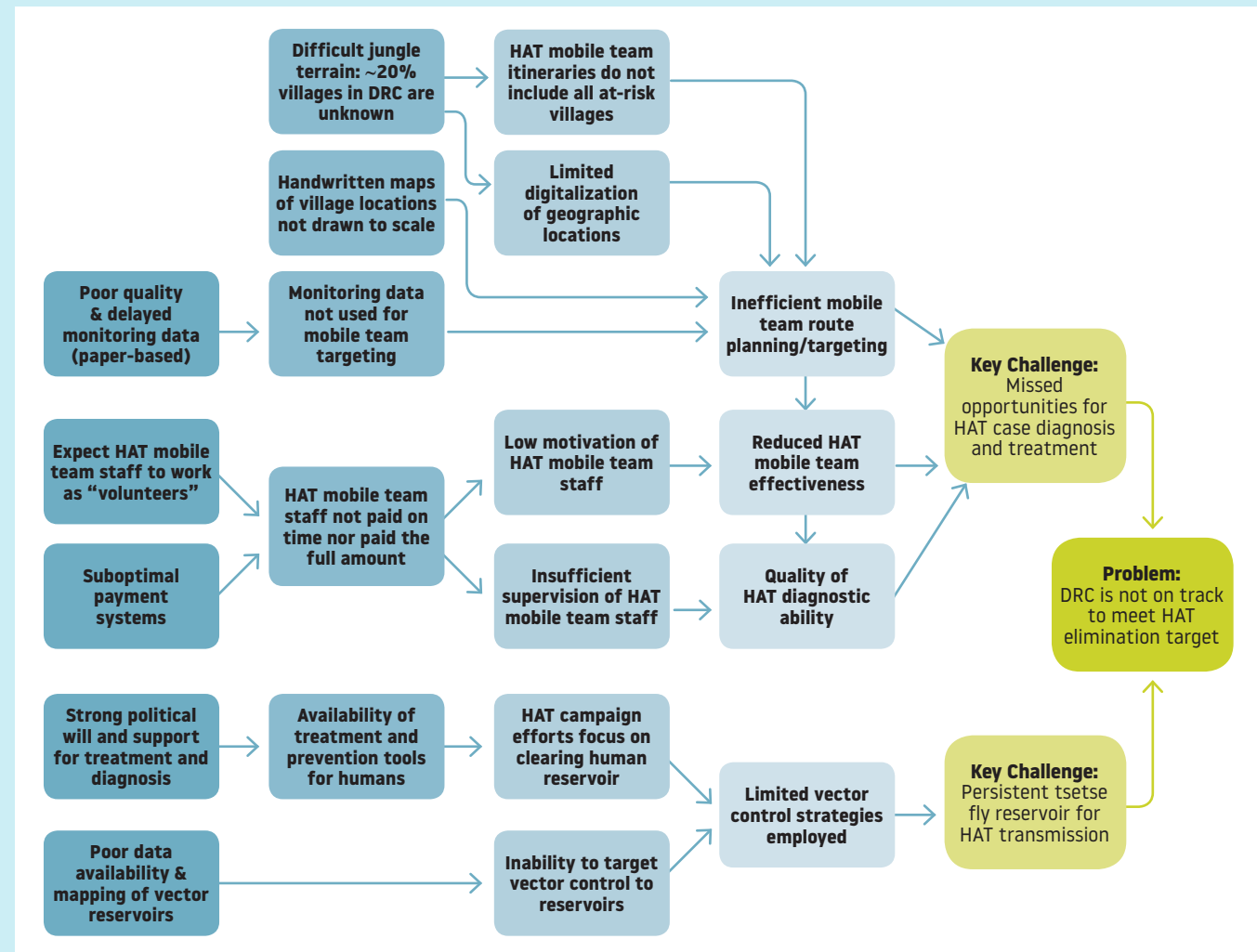
## DRC CASE EXAMPLE STEP 3

Historically, many of the implementation bottlenecks boil down to basic health system constraints (root causes, in some cases) related to supply chain, human resources, and infrastructure, as well as the more operational aspects of implementing the HAT approaches that are depicted in the RCA. There are also likely to be underlying causes and contextual issues that explain why HAT persists in DRC, but which may be outside of an individual actor's span of influence, for example:

- » Community perceptions and mobilization as HAT case numbers diminish.
- » A wide geographic distribution of HAT within DRC.
- » Access to populations and reach of the broader health system.
- » Ability for HAT to persist in small population groups.
- » Seasonally mobile populations.

For simplicity, we have not included these underlying contextual factors in the RCA diagram at right.

**Figure 2. RCA diagram to understand why DRC is not on track to meet their HAT elimination target.**





## *Validate the RCA through iterative and participatory processes*

Root cause analysis benefits from iteration, meaning updating and refining the RCA as additional data are collected and analyzed. If time and resources allow, developing and/or validating the RCA through a participatory process is recommended to confirm assumptions and linkages between root causes, causal factors, and the key challenge, as well as to identify potential new sources of data and ensure a common understanding of the root cause(s).

A participatory workshop is an efficient, low cost approach to validate the RCA by engaging stakeholders such as Ministry of Health officials, district health planners, program managers, implementers (including campaign staff), technical partners, and donors who can all bring insights into the key issues and bottlenecks hampering effective campaign implementation. Gaining key insights from a range

of stakeholders aware of what happened—and why—across the process, supports triangulation across data sources. Reaching consensus on the underlying root cause(s) is important before moving on to designing an intervention.

### **Tips and considerations**

- Consider all of your data sources on hand. What does each source say about the causal chain?
- Are there other types of data that need to be collected? Identify gaps and make plans for data collection, which may include additional interviews with key informants versed on the topic.
- What contextual/environmental factors and critical events may be affecting the causal chain?
- Visual RCA diagrams are sometimes useful, but often can be too complicated: There is a delicate balance between a helpful versus overly complex visual aid.
- Design choices like color coding boxes and solid versus dotted lines can help convey ideas and highlight the root cause(s).
- Making the correct diagnosis of root causes is essential to designing impactful interventions,<sup>13</sup> and a participatory, iterative RCA approach helps to ensure correct, valid diagnoses.

## Participatory RCA Workshop Design Considerations

### *Suggested participants:*

- ➔ Group Size: 8-12 stakeholders (ensures a least two small groups of four people per group).
- ➔ Stakeholder Type: Range of stakeholders to ensure diverse perspectives and knowledge about the key challenges.

### *Example agenda and key points to cover:*

**Table 2. Example agenda.**

Sessions		Rationale and key points to cover
01.	<b>Welcome and introductions, including an icebreaker</b>	An icebreaker warmup helps set the tone for the session and to equalize participation across the various stakeholders with different levels of power and voice. “Passion tags” are one example: on a name tag, each person writes down one to two words to describe their passion (outside of work). This will be how they can refer to one another throughout the meeting.
02.	<b>Present findings on key challenges</b>	Provide a rationale for why this topic area and problem was selected for an RCA, and an overview of the key challenge(s) identified through data review. Depending on the familiarity of the audience with RCA, it may be helpful to include a short presentation and background on RCA as a tool for identifying the root cause(s) of a challenge.
03.	<b>“Barriers/bottlenecks” wall</b>	As an individual exercise, ask participants to consider the key challenge(s) and to write down five barriers or bottlenecks to the challenge. As an interactive exercise, participants write down the barriers on post-it notes and put them on the “barriers / bottlenecks” wall. Allow for 15-20 minutes of facilitated discussion to organize and cluster any barriers or bottlenecks that are similar, thereby identifying patterns in the barriers. This is a good warm up to the group exercise on validating the RCA as it may identify key causal factors missing from your initial draft RCA.
04.	<b>Present the draft RCA</b>	Project the draft RCA developed based on initial data review and brainstorming. Allow time for Q&A clarifications, but initial explanations can be minimal to allow more time for group discussion.

Sessions		Rationale and key points to cover
05.	<b>Group work to validate the RCA</b>	<p>Create stakeholder breakout small groups with diverse representation across the various groups that may be present (e.g., MOH, implementers, technical partners, etc.). Groups can be created in advance or on the fly by “counting off” based on the number of groups. The purpose of the group work is largely to examine the barriers and relationship between root cause, causal factors, and key challenge. Key questions could include:</p> <ul style="list-style-type: none"> <li>→ Are any barriers missing from the RCA (e.g., that were generated from the barriers wall exercise)?</li> <li>→ Are the linkages between causal factors accurate?</li> <li>→ What’s missing or needs to be re-arranged?</li> <li>→ Participants can use a white board or printed copies of the RCA to suggest updates.</li> <li>→ Does the group agree with the root cause or have they identified alternate and/or additional root causes based on the barriers and bottlenecks analysis?</li> <li>→ Is the data and existing evidence enough to inform the causal chain? Identify any data gaps where more information is needed.</li> </ul>
06.	<b>Present group work discussion/suggestions</b>	<p>Each group should be given up to 20 minutes to share back about their group work discussion, including whether they have recommendations for how to update and improve the RCA. The workshop facilitator should help guide the discussion toward consensus across the groups on how to improve the RCA.</p>
07.	<b>Actionability and impact of root causes</b> [Optional session]	<p>See step 5 below: Consider building in a group work session to discuss the actionability and impact of each root cause.</p>
08.	<b>“How might we...” exercise and discussion</b> [Optional session]	<p>Depending on the overall purpose of the workshop, you may consider an optional group work session to facilitate brainstorming around addressing some of the key barriers. In a “how might we” exercise, each group uses the post-it notes to write down their solution ideas in response to a prompt (or challenge emerging from the RCA). Each group should identify roughly 20 solutions in a rapid-fire manner. For example, in the DRC HAT case:</p> <ul style="list-style-type: none"> <li>→ “How might we increase community awareness of HAT?”</li> <li>→ “How might we ensure mini-mobile teams are trained appropriately?”</li> <li>→ “How might we ensure adequate HAT diagnostic test availability?”</li> </ul> <p>Outputs from this workshop can help to frame the intervention design.</p>
09.	<b>Wrap up and closing</b>	<p>Provide a summary of the day, including next steps based on the stakeholder feedback generated in this workshop. Thank participants for their valuable time and insights in contributing to updating and validating the RCA.</p>

### **Expected outputs from the participatory RCA workshop:**

- Validated RCA based on group consensus; noting this process is iterative and another round of updates to the RCA may be necessary. Ideally, RCA continues iteratively as new data or new theories about potential causes emerge.
- Identified gaps for further data collection (for areas of RCA needing further confirmation).

#### EXAMPLE

## 03

### **Lessons learned from participatory RCAs to uncover the root causes of weak utilization of Global Fund investments to improve country data systems**

After noticing continuously low expenditure of M&E budgets in Global Fund grants, the Global Fund commissioned a learning review to understand the reasons for low expenditure and to develop country-tailored solutions to address the problem. As part of this review, PATH interviewed stakeholders in five countries and conducted participatory RCA workshops with country stakeholders to deepen the analyses, validate key findings, build consensus, and co-create solutions. During the participatory workshops, the evaluation team presented the preliminary findings on the key challenges identified during key informant interviews. Then, the stakeholders were divided into groups with each group focusing on one of the key challenges. Each group worked together to develop an RCA that explained the bottlenecks and other factors underlying the challenge. Once completed, the RCAs were presented by each group and stakeholders from other groups asked questions and provided additional information to fill in gaps. As a final step, stakeholders from all groups wrote down recommended solutions to address the root causes related to the different challenges and then discussed the solutions during a facilitated session. Some of the key lessons learned were:

- Identification of key challenges before the participatory stakeholder workshop saves time, but additional key challenges may emerge during the workshop and should be considered.
- Developing draft RCAs prior to the stakeholder workshop helps validate the evaluation team's analyses with stakeholders and uncover additional supporting information.
- Depending on context, stakeholder workshops may vary in length from two hours to a full-day.

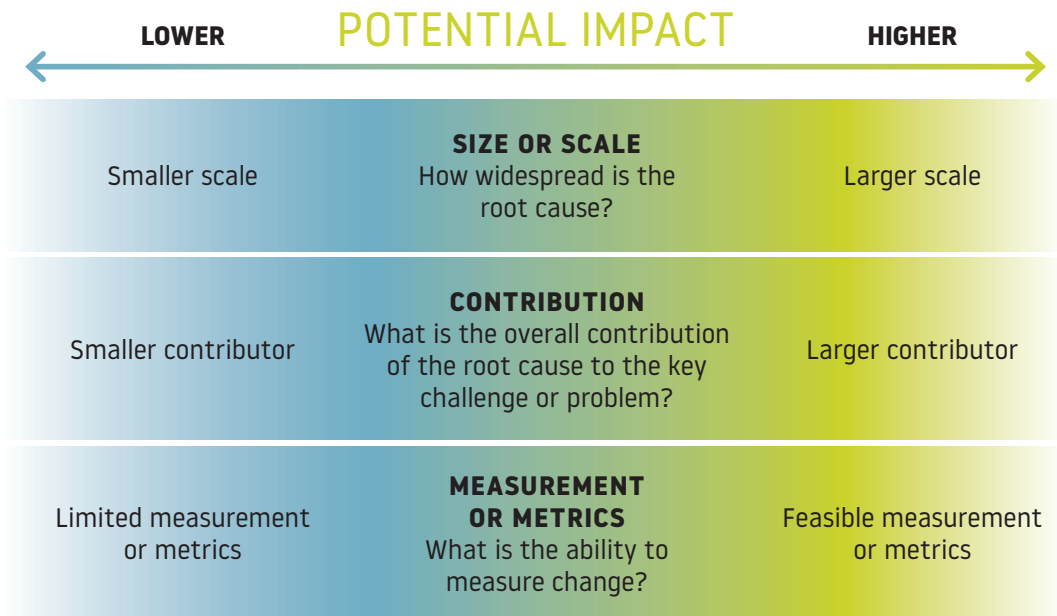


## Identify the most impactful and actionable root causes

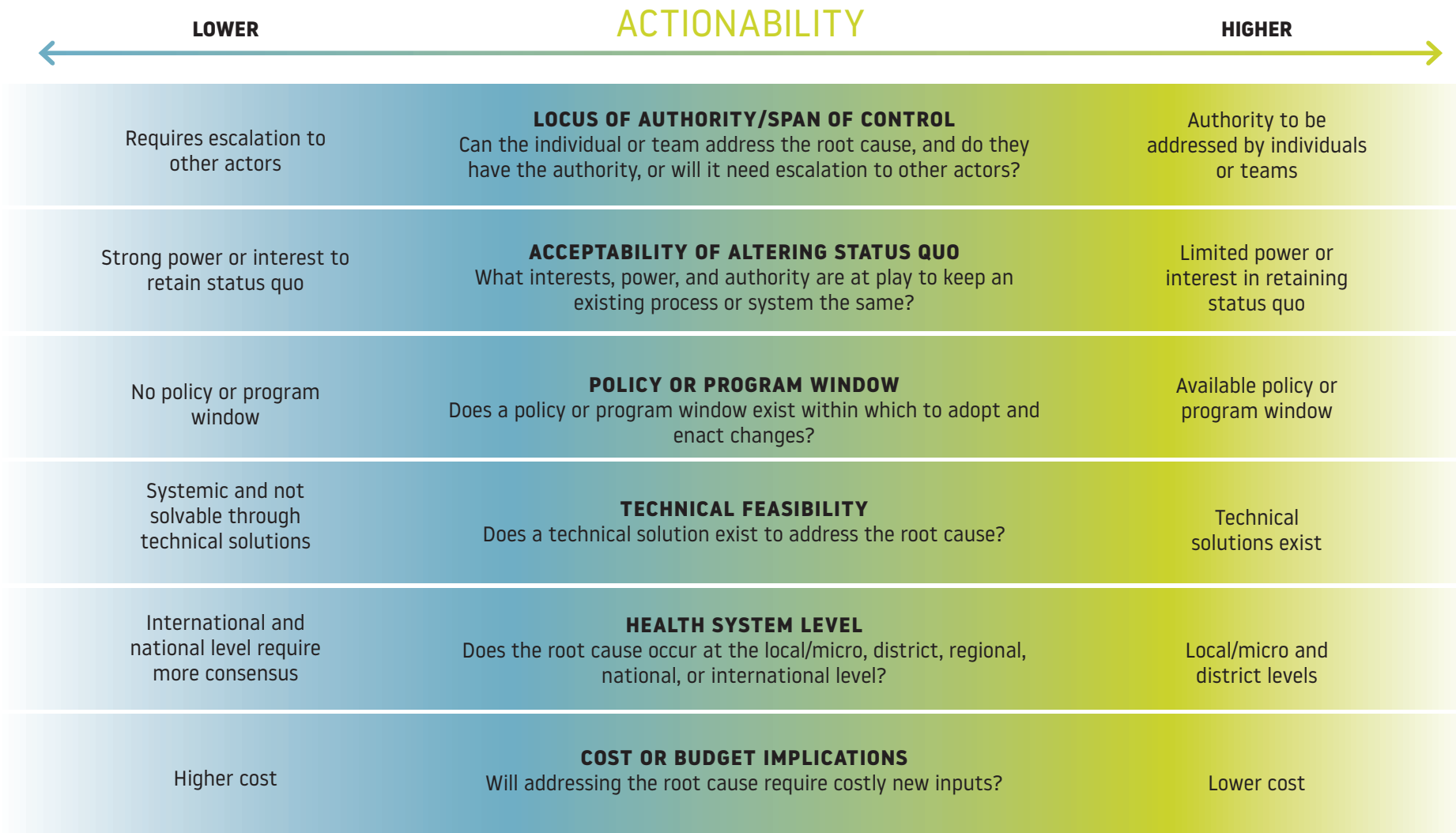
Identifying the most impactful and actionable root causes is a critical step before moving on to intervention design. It can be challenging because it requires identifying where and at which level to aim potential interventions to ensure impact and action.

For example, localized interventions are often easier to gain traction and implement when compared to interventions requiring broader consensus and implementation across a wider geographic scale. This is due to the complexity and time required for (1) aggregating across RCAs from multiple district settings or organizations; (2) building consensus among relevant stakeholders; and (3) convening representatives to agree on recommendations and the way forward (Wu et al. 2008). Similarly, technical root causes are often more actionable than systemic root causes. The literature around quality improvement provides helpful guideposts for considering actionability and potential impact. Figure 3 summarizes some of the most common considerations to help in assessing actionability and potential impact. An optional group work session can be included in the participatory RCA workshop (Step 4) to gain stakeholder feedback around the actionability and impact of each of the identified root causes.

**Figure 3. Considerations to assess the potential impact of addressing root causes.**



**Figure 4. Considerations to assess the actionability of addressing root causes.**



We suggest using a 2 x 2 table to organize which root causes are most actionable, and when addressed, are likely to drive the most impact:

**Table 3. Table for organizing root causes.**

Root causes	Low potential impact	High potential impact
Low actionability		
High actionability		

Given the actionability and impact considerations, not all RCAs lead to change. Other key determinants of RCA usefulness may include:

- Strong engagement with stakeholders: key actors must be bought into the causal pathway of the RCA. Buy-in can be improved through participatory and iterative approaches that draw knowledge and locally and contextually relevant ideas from key stakeholders during STEP 4.
- A policy or program window exists within which to adopt and enact changes to a campaign.
- The RCA strikes the right tone in framing challenges or successes related to a campaign.
- RCAs accompanied by actionable recommendations can help to spur further discussion by stakeholders, leaders, and decision-makers on the way forward for intervention design.



### DRC Case Example | STEP 5. Identify the most impactful and actionable root causes

Review your set of root causes (Figure 2) and underlying contextual factors in view of actionability considerations (Figure 3) to assess low versus high actionability and low versus high potential impact. In the 2 x 2 table below, we have organized which root causes are most actionable, and when addressed, are likely to drive the most impact. A few illustrative examples from the matrix include:

- The widespread geographic distribution of HAT within DRC is an underlying contextual factor that contributes to ongoing HAT transmission and will require a broad, crosscutting health system intervention to address it, which will likely require high cost inputs.
- The suboptimal payment system has low actionability due to difficulty in altering the status quo and likely escalation to the national level, but high potential impact given that delayed and incorrect payments is a large contributor to low motivation among HAT campaign staff.
- Seasonally mobile populations in DRC are an underlying contextual factor considered to have low actionability in that it is not necessarily solvable through technical solutions and requires escalation to other actors, and low potential impact given it is considered a smaller contributor to the overall key challenge.
- The limited digitization of geographic locations is highly actionable (low cost, technical solutions exists with an available program window for digital health interventions) with high potential impact given this root cause is widespread and a major contributor to inefficient HAT mobile team itinerary planning.

In moving on to intervention design, ideally, we will end up targeting root causes located in the “high actionability/high potential impact” box.

**Table 4. DRC Root cause table.**

Root causes	Low potential impact	High potential impact
Low actionability	<ul style="list-style-type: none"> <li>→ Seasonally mobile populations</li> <li>→ Ability for HAT to persist in small population groups</li> </ul>	<ul style="list-style-type: none"> <li>→ Suboptimal payment system</li> <li>→ Limited political will and buy-in</li> <li>→ A wide geographic distribution of HAT within DRC</li> <li>→ Community perceptions and mobilization as HAT cases diminish</li> </ul>
High actionability	<ul style="list-style-type: none"> <li>→ Expectation of HAT campaign staff to work as “volunteers”</li> </ul>	<ul style="list-style-type: none"> <li>→ Limited digitalization of geographic locations</li> <li>→ Poor data availability and mapping of vector reservoirs</li> <li>→ Poor quality and delayed monitoring data (paper-based)</li> </ul>



## References and resources

- 1 World Health Organization (WHO). Trypanosomiasis, human African (sleeping sickness) Fact Sheet [Internet]. 2018 [cited 2019 Feb 4]. [https://www.who.int/en/news-room/fact-sheets/detail/trypanosomiasis-human-african-\(sleeping-sickness\)](https://www.who.int/en/news-room/fact-sheets/detail/trypanosomiasis-human-african-(sleeping-sickness)).
- 2 Simarro PP, Cecchi G, Franco JR, Paone M, Diarra A, Ruiz-Postigo JA, et al. Estimating and Mapping the Population at Risk of Sleeping Sickness. *PLoS Negl Trop Dis*. 2012;6.
- 3 Rock KS, Torr SJ, Lumbala C, Keeling MJ. Quantitative evaluation of the strategy to eliminate human African trypanosomiasis in the Democratic Republic of Congo. *Parasites and Vectors*. 2015;8:1–13.
- 4 Bessell PR, Lumbala C, Lutumba P, Baloji S, Biéler S, Ndung'u JM. Cost-effectiveness of using a rapid diagnostic test to screen for human African trypanosomiasis in the Democratic Republic of the Congo. *PLoS One*. 2018;13:1–18.
- 5 PATH. Eliminating a Devastating Disease in the Democratic Republic of the Congo [Internet]. 2018 [cited 2019 Apr 11]. <https://www.path.org/resources/eliminating-devastating-disease-democratic-republic-congo/>.
- 6 PATH. PATH celebrates progress in fight against sleeping sickness in the Democratic Republic of the Congo [Internet]. 2019 [cited 2019 Apr 11]. <https://www.path.org/articles/celebrating-progress-in-fight-to-eliminate-sleeping-sickness/>.
- 7 WHO. Planning and Implementing High-Quality Supplementary Immunization Activities for Injectable Vaccines Using an Example of Measles and Rubella Vaccines: Field Guide. Geneva: WHO; 2016. <https://www.who.int/immunization/diseases/measles/SIA-Field-Guide.pdf>.
- 8 Card AJ. The problem with ' 5 whys .' *BMJ Qual Saf*. 2017;671–7.
- 9 Aboagye R, Cherala S, Senesac P, Johnston J. Quality Improvement (QI) in Evaluation: Ask Why Again and Again and Again [Internet]. AEA blog. 2016 [cited 2019 Feb 5]. [aea365.org/blog/ruth-aboagye-sai-cherala-pam-senesac-and-joan-johnston-on-quality-improvement-qi-in-evaluation-ask-why-again-and-again-and-again/](http://aea365.org/blog/ruth-aboagye-sai-cherala-pam-senesac-and-joan-johnston-on-quality-improvement-qi-in-evaluation-ask-why-again-and-again-and-again/).
- 10 James J. Rooney, Lee N. Vanden Heuvel. Root Cause Analysis For Beginners. *Qual Prog*. 2004;45–53.
- 11 Lennon P, Atuhaire B, Yavari S, Sampath V, Mvundura M, Ramanathan N, et al. Root cause analysis underscores the importance of understanding, addressing, and communicating cold chain equipment failures to improve equipment performance. *Vaccine*. The Author(s); 2017;35:2198–202.
- 12 Dansereau E, Miangotar Y, Squires E, Mimche H, Bcheraoui C El. Challenges to implementing Gavi's health system strengthening support in Chad and Cameroon: results from a mixed-methods evaluation. *Global Health. Globalization and Health*; 2017;13:1–12.
- 13 Gaarder M, Dixon V. Misdiagnosis and the evidence trap: a tale of inadequate program design [Internet]. 3ie blog. 2018 [cited 2019 Feb 5]. <https://www.3ieimpact.org/blogs/misdiagnosis-and-evidence-trap-tale-inadequate-program-design>.

## Annex 1. Illustrative indicators and data sources for campaign effectiveness and efficiency

Level	Effectiveness/efficiency	Indicator	Target	Data source
Impact	Effectiveness	Number measles cases		Routine surveillance
Impact	Effectiveness	Number child deaths		
Impact	Efficiency	Cost / measles case averted		Routine surveillance + LiST modeling tool
Outcome	Effectiveness	Campaign coverage	95% coverage nationally and within every district	Campaign monitoring or post-campaign survey
Outcome	Efficiency	Cost / child vaccinated		Campaign monitoring or post-campaign survey
Outcome	Effectiveness	Number and percentage of unvaccinated children detected post-campaign	<10%	Independent rapid-convenience monitoring
Process	Efficiency	Timing of availability of operational funds in districts	Ordered 9-12 mo. prior to campaign	See WHO SIA field guide for guidance on process indicators, sources
Process	Efficiency	Timing of orders of bundled vaccines / supplies	100% by 4 mo. prior to campaign	Logistics and ordering records
Process	Efficiency	Timing of completion of district microplanning workshops	100% by 6 mo. prior to campaign	Workshop records
Process	Effectiveness	Percentage of vaccination posts assessed by supervisors	100%	Supervisory records
Process	Effectiveness	Percentage of districts submitting daily tallies of doses administered	100%	Data monitoring records/tally sheets

## Annex 2. Template for organizing key information and evidence related to issues and bottlenecks that may be hindering campaign effectiveness

Key information & evidence	Observable issues or bottlenecks	Implementation domain	Data sources

# The Rapid Evaluation, Action, and Learning (REAL) Approach

*A toolkit to measure and refine changes and interventions in health campaigns*



# The Rapid Evaluation, Action, and Learning (REAL) Approach:

a toolkit to measure and refine changes and interventions in health campaigns



## Primary users & target audience

This toolkit is geared towards readers who have some familiarity with operations research and monitoring and evaluation tools and approaches, including:

- **Staff of the Bill & Melinda Gates Foundation**, including country offices and program support teams who fund or provide technical assistance to campaigns as well as staff and leadership who make investment decisions about whether to scale up or transfer campaign effectiveness investments.
- **Campaign implementers and key stakeholders**, including Ministry of Health program managers and technical assistance providers/partners, with local contextual knowledge and decision-making influence, who are involved in processes that contribute to transforming results along the causal chain, thereby improving campaign effectiveness.
- **Campaign effectiveness grantees**, responsible for implementing campaign effectiveness interventions.



## Learning objectives

- **By the end of this toolkit, users should be able to:**
  - » Identify what information is needed to make a decision to scale up, scale down, or revise a change to a campaign.
  - » Describe the trade-offs and criteria for selecting the most feasible and appropriate (“fit-for-purpose”) approach to monitoring, evaluating, or operations research of campaign effectiveness changes.
  - » Describe the steps and components of the REAL approach to measure changes in the processes, outputs, outcomes, and impacts of interventions and strategies to improve campaign effectiveness.
  - » Articulate how to iteratively and continuously adapt interventions—and the implementation of interventions—to optimize outputs and outcomes.
  - » Identify what types of intervention they want to test and the most important characteristics of the intervention to test.

## Before you begin

We recommend you use the companion toolkit *“Identifying critical campaign challenges and diagnosing bottlenecks”* before you embark on designing and testing a change.

### Glossary of terms

<b>Adaptive management</b>	An intentional approach to making decisions and adjustments in response to new information and changes in context.
<b>Change</b>	An intervention, activity, or solution that is the focus of the REAL approach.
<b>Causal chain</b>	Describes the process by which an initial change or input is transformed into a series of results.
<b>Indicator</b>	A specific, observable, and measurable piece of information used to track progress along a logic model.
<b>Link</b>	A single logical relationship between an input and its result.
<b>Logic model</b>	An illustration of the logical relationships between inputs and results (outputs or outcomes).
<b>Result</b>	What is produced by a link in a causal chain. A logic model can have multiple results along the causal chain.
<b>Strategic question</b>	A higher-level question whose answer can inform a management or strategic decision. For example: “Should we scale up the change?”
<b>Testing question</b>	An operational question that can be feasibly answered but which will also contribute to answering a strategic question.

## Introduction

The goal of this toolkit is to improve the timeliness and relevance of evaluation and learning to accelerate improvements in the effectiveness of health campaigns.

The toolkit’s rationale is driven by growing global interest in “fit-for-purpose,” rapid-testing, adaptive learning approaches to evaluation, and the need for a culture shift towards iterative adaptation and improvement that integrates measurement and evidence-informed decision-making into daily practice (Kainz & Metz, 2015). This toolkit supports moving toward an ethos of “failing fast,” understanding what works (or not), and removing interventions that are less promising.

This toolkit describes a five-step approach to rapid evaluation, action, and learning (REAL) and how to implement it for a range of changes (i.e., solutions or interventions implemented to improve a campaign’s effectiveness). This approach improves efficiency by acknowledging that not every link in a logic model’s causal chain requires monitoring or testing. It improves transfer and scale-up of effective changes by involving diverse stakeholders to question program or intervention logic and then understand how and why an intervention works, as well as the role of context.

This approach can help to answer a range of questions, and this toolkit will help to identify which information is needed to make operational, strategic, or policy decisions.

### Key questions answered through this toolkit include:

- Does the change produce its intended effect?
- Why or how does the change produce its intended effect?
- How can we further improve the process?
- What does the change cost?
- How could the change be scaled up?
- How could the change be transferred to another setting?

The last two questions are of particular importance to funders as they consider whether to recommend and/or invest in a given intervention or package.

### Principles of the REAL approach:

- **Right-sized:** Aims to balance rigor with efficiency.
- **Strategic:** Prioritizes the production of information that is strategic for decision-making.
- **Context matters:** Aims to identify how a change is working, not just whether it is working.
- **Participatory:** Draws on multiple stakeholder views to strengthen the validity of logic models.
- **Timely:** Emphasizes rapid and right-sized assessment to better align with policy windows.
- **Adaptable:** Can be adapted to various types of change (simple, complicated, complex) or to changes in complex systems.
- **Ongoing:** Integrates design, measurement, and adaptive management to rapidly test interventions and enable continuous learning and improvement.



### A hybrid approach: Agile science meets causal link monitoring

The approach presented here is heavily influenced by Heather Britt, Richard Hummelbrunner, and Jacqueline Greene's 2017 white paper "Causal Link Monitoring." We have adapted their approach and examples for campaign effectiveness interventions, drawing from other approaches, where appropriate, based on our review of dozens of protocols, publications, and monitoring and evaluation toolkits, including: agile science, causal link monitoring, continuous quality improvement, developmental evaluation, participatory action research, problem driven iterative adaptation, process evaluation, rapid cycle evaluation, and realist evaluation.

### Key concepts of REAL:

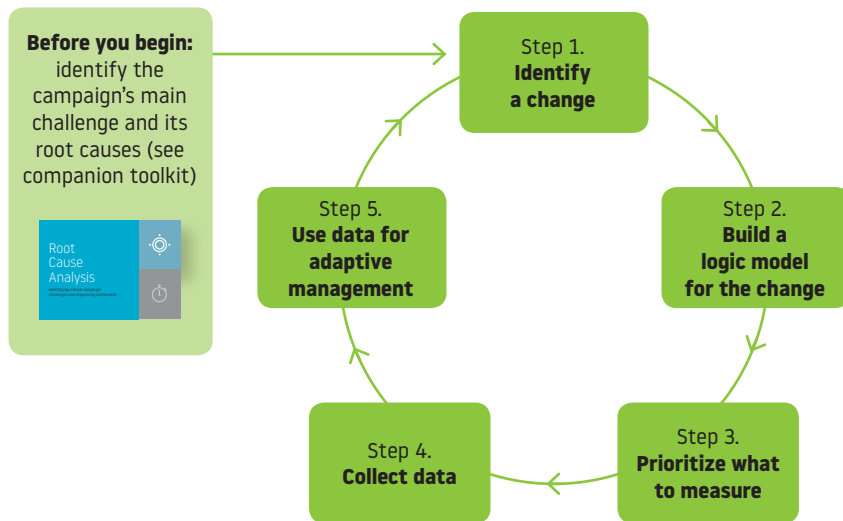
- Not every link in a causal chain requires monitoring or testing!
- Transfer and scale-up can be improved by engaging diverse stakeholders to critique program logic.

## Five Steps of REAL

REAL includes five steps. You should familiarize yourself with all of them before starting, as the REAL process is not always linear. Before you begin, consult the companion toolkit on identifying root causes of campaign challenges.

01. Identify a change to address challenges
02. Build a logic model for the change
03. Prioritize what to measure
04. Collect data
05. Use data for adaptive management

**Figure 1. Rapid evaluation, action, and learning (REAL) approach.**



## INTRODUCING THE TWO CASE STUDIES

This toolkit includes two hypothetical case studies to help the reader apply the toolkit to real-world campaign changes. One case study applies the REAL approach to a relatively simple change from India's Intensified Mission Indradhanush (IMI) vaccination campaign and is used throughout this toolkit as an example. The characters in this case study include the District Immunization Officer (DIO), the WHO Surveillance Medical Officer (SMO), the Bill and Melinda Gates Foundation (BMGF) Program Officer (PO), and the IMI Monitoring & Evaluation (M&E) officer.

The second case study applies REAL to test a package of more complex changes from a human African trypanosomiasis (HAT) elimination initiative in the Democratic Republic of the Congo (DRC). This case is described in full in Annex 1.



## Identify a change to address challenges

You have a campaign challenge to solve. In the companion toolkit on root cause analysis (RCA), you identified a challenge or bottleneck that constrained the effectiveness of a campaign. You learned to use root cause analysis to identify the root causes of the challenge, and assessed the actionability and potential impact of addressing each root cause. Based on the actionable causes you identified, you now need to identify a change to make and test.

Changes can be simple process refinements or a new intervention. The change may be obvious from the root cause analysis you did during the first toolkit, or it may require brainstorming and rapid prototyping to come up with a solution. Here are some suggestions to help identify an actionable and impactful idea for a change:

*Adapted from [The Field Guide to Human-Centered Design \(IDEO.org, 2015\)](#)*

- Write the question or prompt somewhere where everyone can see (e.g., “How can we increase access to reliable transportation for campaign staff?”). Make sure the team understands the question before starting.
- Brainstorm as many ideas as possible. We recommend using sticky notes. Encourage the team to build on others’ ideas and to not criticize any idea.
- Once you have dozens of ideas on sticky notes, bundle them into groups of similar ideas. If you have a diagram of the RCA you can map them to the root causes and causal factors.
- Choose which bundle to implement and test, or even multiple bundles of ideas. Continue considering feasibility and acceptability, how the solution will address the identified challenges, and what evidence we have from elsewhere on the solution’s effectiveness (particularly if it is an expensive or resource intensive solution).

Involve diverse stakeholders in this step, including those who can speak to the feasibility and acceptability of ideas, others that can speak to evidence of what works and technical considerations, and those who will ultimately implement the change (Seth & Menon. 2019).

The Field Guide to Human-Centered Design provides excellent guidance and examples for these steps and others. Because design has been described extensively elsewhere, this toolkit focuses on testing the changes. Here is some additional recommended reading to help you design a change in Step 1:

- [The Field Guide to Human-Centered Design](#)
- [Design for Health website](#)
- [Six Steps in Quality Intervention Development \(6SQuID\)](#)

## Define the key problem or challenge (or success)

In this step you will learn how to build a logic model for your campaign change. According to CDC, a logic model is:

*a graphic depiction (road map) that presents the shared relationships among the resources, activities, outputs, and outcomes/impacts for your program. It depicts the relationship between your program's activities and its intended effects, in an implicit 'if-then' relationship among the program elements — if I do this activity, then I expect this outcome. Among other things, a logic model helps clarify the boundary between 'what' the program is doing and 'so what'—the changes that are intended to result from strong implementation of the "what." (CDC, 2017)*

We often tend to oversimplify the 'if-then' relationships between a proposed change and its intended results. The added-value of REAL is that we unpack those assumptions to not only design more effective changes, but to identify what we should measure.

### This step is critically IMPORTANT because:

- ➔ This step establishes the theory underlying how a change will contribute to achieving the intended outcomes, through one or more causal pathways.
- ➔ An accurate logic model will help you identify what to measure in Step 3.
- ➔ The more complicated a change, the more important this step is to explicitly articulate how the change(s) will produce the intended outcomes.

### 2.1 Describe the change

Describe the campaign 'change' as an input or activity. For example:

- » "Mobile phone-based micro-planning"
- » "Payment of campaign staff using mobile money"
- » "Transportation vouchers for campaign staff"

Describing the change will build from the (hopefully) participatory approach you took in Step 1 to identifying or designing the change. Your description will be based on the perspectives and feedback from diverse but knowledgeable stakeholders who will be able to give different perspectives of what needs to be done.

## 2.2 Describe the intended outputs and outcomes of the change

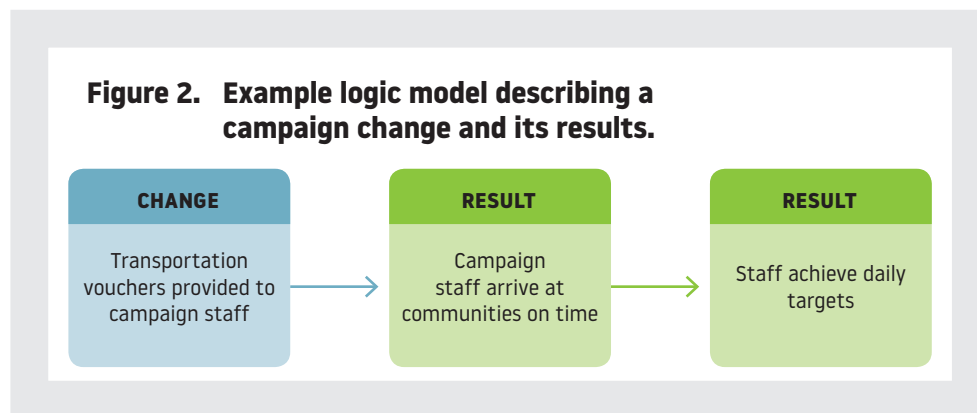
List all the intended results of the change. It is often easier to first list them out and then order them sequentially. The campaign change should be written on the left with lines leading from left to right showing each result that is produced. List as many results in your chain as you can—don't worry, you won't have to measure all of them, but it is important to write out the full results chain.

Simple changes will produce relatively simple results chains (Figure 2). More complicated changes may produce more complicated results chains, with a single box producing multiple results (see HAT example in Annex 1).

For complicated and complex interventions, you should consider:

- ➔ Did we get the sequencing right? Are there any steps that need to occur first for other steps to occur?
- ➔ Does the change, or any result, lead to multiple results?
- ➔ Do we expect any feedback loops, such that the achievement of one result will influence an earlier result?

The team in India developed the following logic model in a few minutes (Figure 2).

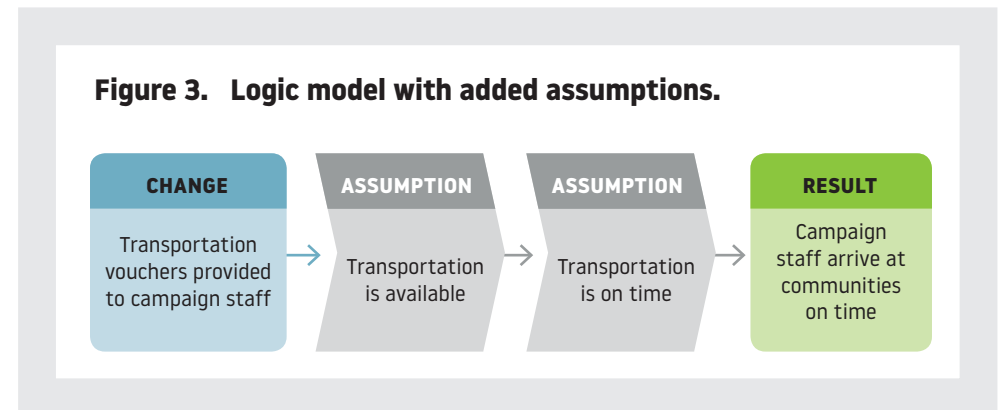


## 2.3 Unpack assumptions in the causal links

This step unpacks the assumptions we make between the change and the result we think it will produce (Britt, Hummelbrunner, & Greene, 2017). Often, we tend to oversimplify results chains and logic models. By unpacking the assumptions between two boxes:

- ➔ Causal leaps become visible.
- ➔ Missed or forgotten steps are identified.
- ➔ Optimal sequencing is uncovered (for complicated changes).
- ➔ Measurement priorities become clearer (Step 3).

The team in India discussed their original logic model (Figure 3) and agreed that they had missed some key assumptions between the change and the first result. They were able to do this in a team meeting, but then vetted these assumptions with other stakeholders.



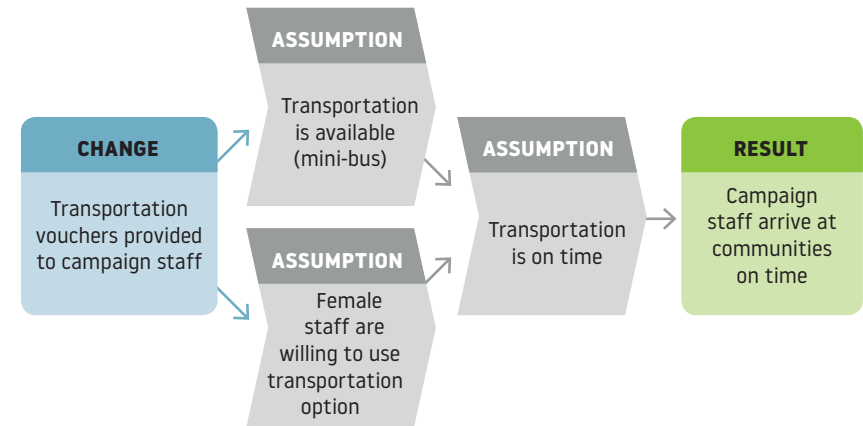
## 2.4 Seek other perspectives and contextual factors

Vetting the logic model with diverse stakeholders using participatory approaches will ensure its validity and will improve the likelihood that findings will be used later. You can do this during regularly planned meetings or schedule in-person or telephone interviews.

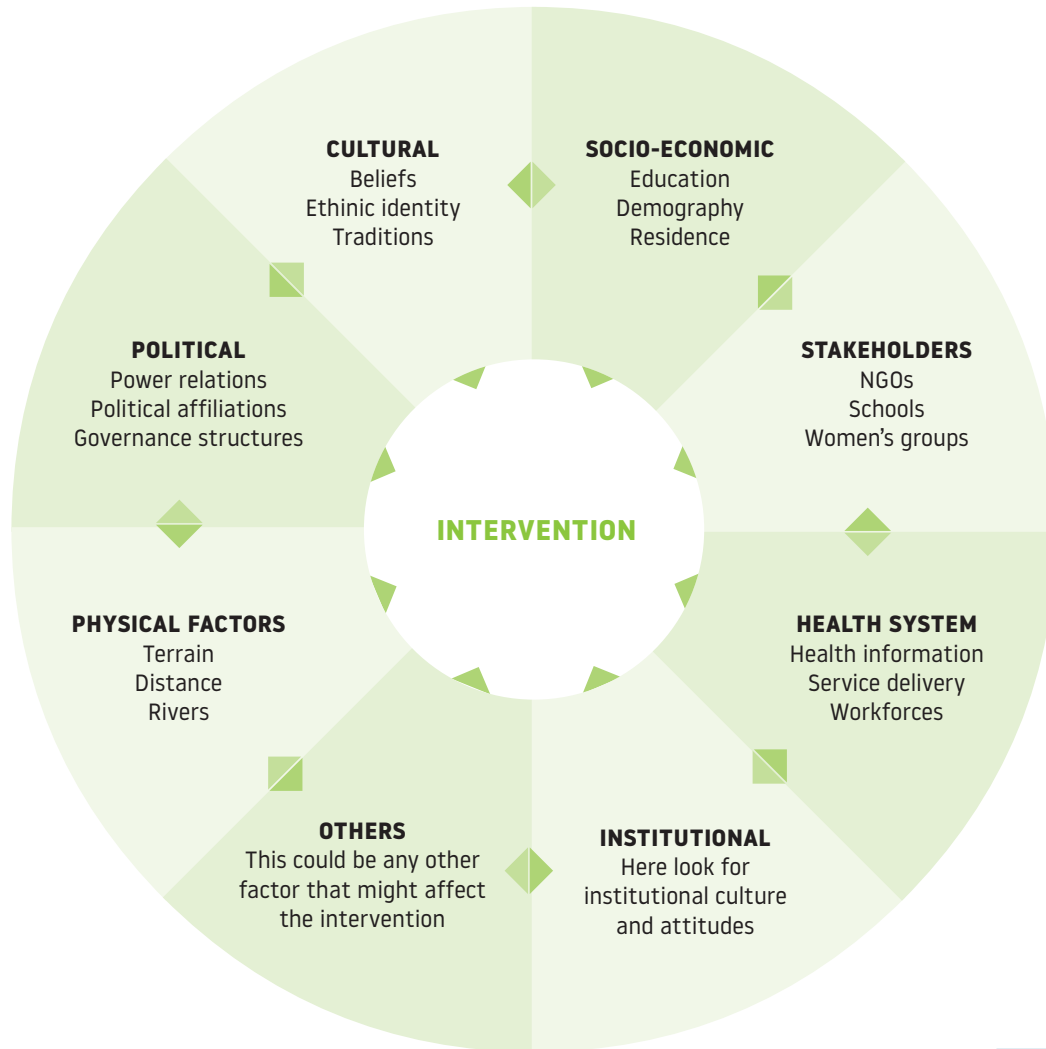
Annex 2 provides a **facilitation guide** adapted from CDC for conversations about the logic model.

The team in India shared the logic model with the larger Intensified Mission Indradhanush team during a planned meeting. The meeting stakeholders were already familiar with the proposed change, so the team used the facilitation guide to vet the proposed logic model. One staff supervisor pointed out that there were many transportation options in the area, but that female campaign staff would not feel comfortable traveling alone in an autorickshaw or on a motorcycle; female staff would only ride in mini-buses, and even then, the decision to take a bus would depend on other factors such as how busy it was, what route it took, how the driver was behaving, etc. This conversation spurred the team to refine and add assumptions about transportation availability (Figure 4). ‘Acceptability of transportation (including gender)’ was added as a contextual factor to the logic model, noted as a grey chevron.

**Figure 4. Logic model with refined assumptions and contextual factors that may influence the results chain.**



**Figure 5. Contextual factors from “Implementation Research Toolkit” (WHO, 2014).**



## How to incorporate context in REAL

To answer questions about why and how the change works, and about potential for scale and transfer, a rich understanding of context is needed. Context can include local environment, decision-making structures, health systems organization, stakeholder norms and preferences—anything that might influence the achievement of a causal link (see examples of contextual factors in Figure 5). When these contextual factors differ across settings, the causal links may behave differently, producing different or unexpected results. Annex 3 provides a “context tracker” tool to help note and describe important contextual factors. In the case of India, the BMGF PO spent 10 minutes describing the local transportation infrastructure based on her initial observations, along with questions to follow up on during monitoring. She attempted to flag aspects which seemed locally-specific and which might not be found in other Indian states, or other countries.

[https://apps.who.int/iris/bitstream/handle/10665/110523/9789241506960\\_Workbook\\_eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/110523/9789241506960_Workbook_eng.pdf)

## Keep iterating your change

The logic model will help you identify how you need to iterate your change to make it even more likely to succeed. As you update your logic model and gain new insights, you will need to update your change. Consider whether you have the right staff or people involved; whether you have the right implementation strategy, training plan, or communications plan; and whether the physical components of your change (e.g., the transportation vouchers themselves) are easy to use. See *The Field Guide for Human-Centered Design* for more ideas, and Step 5.4 for an example from the IMI case.

## 2.5 Iterative updating of the logic model

Vetting with diverse stakeholders may identify the need to revise or adjust the change activity itself. Campaign stakeholders in India discussed whether they should introduce an intervention to mobilize bus drivers or schedule buses in advance. They opted to test the initial change for a few days and quickly assess whether it was sufficient or needed additional changes.



### Your turn

What does the logic model look like for your change? You can use pen and paper, sticky notes, PowerPoint, Visio, etc. to create and update your logic model.

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## Prioritize what to measure

In this step, you will work with diverse stakeholders to identify which causal links are the most strategic to measure. The added value of the REAL approach is that not all results or relationships between changes and results need to be monitored or measured.

Rather, the choice of relationships to monitor should be prioritized based on which are most strategic for success (Britt et al. 2017). In most cases, “success” is defined as the effective implementation and/or scale-up of interventions. As a general rule of thumb, focus on causal links where uncertainty exists or where there is disagreement between decision-makers, while keeping in mind the choice of areas of observation can change over the project lifetime (Britt et al. 2017). Another way to prioritize what to measure is based on the costs or other risks of making the wrong decision. If a process change has any potential to negatively affect the health or well-being of beneficiaries, for example, it should be rigorously evaluated.

You might already know quite a bit about some causal links from existing research evidence or evaluation. Or, some may be low-risk enough that you can count on expert opinion or strong theoretical plausibility of effect. Others may be dependent on earlier steps, and we don’t want to waste resources measuring a distal effect that is unlikely to occur because of uncertainty in more proximal causal chain. The goal of this step is to identify how to measure what will be needed to make a strategic decision to scale up, scale down, transfer, or not transfer the campaign change.

### This step is critically **IMPORTANT** because:

- Not all causal links are necessary to measure.
- Choosing which to measure should be based on considerations of strategic importance:
  - » What information do decision-makers need to scale up or down?
  - » How much, and what type of information will they need?
  - » Where is there the greatest uncertainty?

You may identify different criteria to guide your approach of deciding what to measure, and at what level of rigor, in your setting. The best practice is to include decision-makers in this stage so that you are clear about their decision-making needs and how they evaluate evidence.

For some decision-makers, it may be important to use an experimental design such as a randomized controlled trial to produce estimates of impact with a high level of confidence; however, experimental designs are typically more expensive and take longer, and your job is to weigh the trade-offs between measurement options (see an excellent overview of experimental designs) (Collins et al. 2011).

*\*Note that steps 3.1 and 3.2 can occur in any order, or in parallel.*



## Scale vs. transfer and information needed

We define ‘scale-up’ as the expansion of a change, typically within an administrative jurisdiction such as a health district, province, or country. Replication, diffusion, or transfer refers to the process of taking a change or intervention from one context and setting and implementing it in another. Different types of information are needed to inform scale vs. transfer decisions (see Table 1 below). When considering whether a change can be replicated in or transferred to another setting, it is essential to understand how the campaign context interacted with the change mechanisms to produce the observed results. While many checklists exist for considering the transferability of interventions (Burchett et al. 2018), and all are useful in different ways, we will walk you through steps you can take to collect the right information to inform decisions to replicate, diffuse, transfer, and invest elsewhere.

## 3.1 Agree on what information is needed for ‘success’

A limitation of traditional impact evaluations is that while they can very precisely estimate the impact of an intervention in the study setting, they do not often produce information telling us how the intervention worked or whether it would work in another setting. For BMGF and other global stakeholders, questions such as ‘how and why did the intervention produce its results here, and could it produce similar results elsewhere?’ are as important as ‘was the intervention effective?’.

Common questions include:

- Does the change produce its intended effect?
- Why or how does the change produce its intended effect?
- How can we further improve the process?
- What does the change cost?
- How could the change be scaled-up?
- How could the change be transferred to another setting?

In this step, identify the key decision-makers of the REAL findings. This could be BMGF staff deciding whether to support the transfer of the intervention to other settings. It could be national or subnational policymakers and program managers (e.g., the Expanded Program on Immunization [EPI] manager) who makes key decisions about the design and implementation of the campaign. Discuss which questions are the greatest priority for each of them. While you are welcome to answer all these questions through rapid cycle testing, most testers prefer to prioritize a few for the sake of time and effort.



**Table 1. Comparison of information priorities for each type of key decision-maker.**

Question	BMGF India Country Office, Program Officer	District Immunization Officer	WHO Surveillance Medical Officer
Does the change produce its intended effect?	High	High	High
Why or how does the change produce its intended effect?	Medium	Low	Medium
How can we further improve the process?	Low	High	High
What does the change cost?	Low	High	Medium
How could the change be scaled up?	High	Low	Medium
How could the change be transferred to another setting?	High	Low	Low

In the IMI case, the team discussed whether to try to answer all questions or focus only on some. Local decision-makers were less interested in scale-up and transfer than was the BMGF PO. They all agreed that, at a minimum, they needed to know whether the change was working and how/why it was working to inform transfer and scale.

### Strategic questions resulting from participatory discussions with decision-makers:

- ➔ Are transportation vouchers effective in improving the on-time arrival of campaign staff?
- ➔ Under what circumstances and for whom do transportation vouchers work to improve on-time arrival?



### Your turn

Enter your key decision-makers in the columns, adding columns as needed. For each decision-maker, rate each question as ‘high,’ ‘medium,’ or ‘low’ priority to them. The facilitation guide in Annex 2 provides discussion questions for helping to establish their information priorities during meetings/interviews with them.

Question			
Does the change produce its intended effect?			
Why or how does the change produce its intended effect?			
How can we further improve the process?			
What does the change cost?			
How could the change be scaled up?			
How could the change be transferred to another setting?			

## 3.2 Identify causal links with greatest uncertainty

This is another step that is ideally done during meetings or interviews with key stakeholders and decision-makers. The goal is to identify the causal links with the greatest uncertainty; a central feature of rapid cycle testing is that it targets the testing and measurement to a few priority areas instead of having to measure everything.

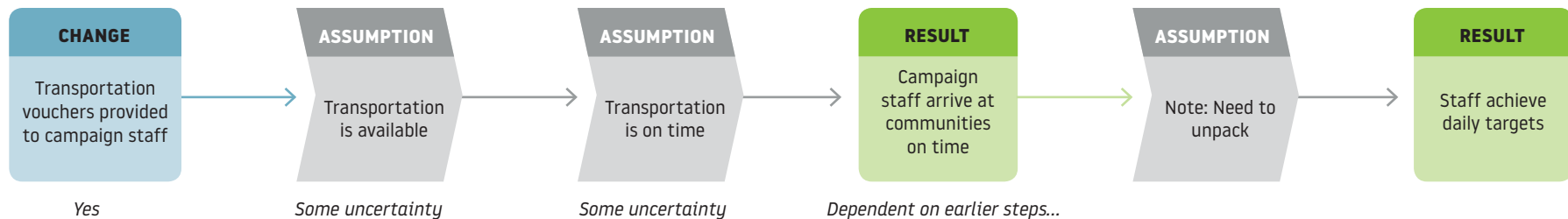
In the testing team, consider which existing data are available for any of the assumptions.

During the stakeholder engagement for the logic model, ask the question: “How certain are you that this step will occur?” It can be helpful to walk through from beginning to end.

In India, after discussion and feedback from stakeholders, the team agreed that the greatest uncertainty existed for the assumptions and results highlighted below. They were confident that the provision of the vouchers (change) would occur because it was under their direct control. The team had no data on the frequency and timeliness of public transportation. One team member spent a morning observing bus flows in the main town and asked drivers about their routes. During meetings with stakeholders, there was much doubt whether all villages were covered by the bus network and whether campaign staff would be able to navigate the networks. There were additional concerns about female staff’s safety in the event they needed to change from one bus to another in a remote locale and some stakeholders questioned whether the drivers would even know to accept the vouchers. Basically, the team were collecting more questions they needed to answer and continuing to refine the logic model (Figure 6).

It is not uncommon to be equally uncertain for multiple assumptions/results. All else being equal, measurement should first focus on earlier links in the process which are necessary for subsequent results. In India, the team agreed they needed to simultaneously measure box 2 (available) and box 3 (on time).

**Figure 6. Refined logic model assessed for uncertainty.**



### 3.3 Combining the two criteria to clarify data to collect

In this step, we combine the priority strategic questions from 3.1 with the logic model’s causal links with the most uncertainty to develop more operational, actionable testing questions and indicators.

In India, the team reworked the first causal link into testing questions that would help answer their strategic questions (i.e., whether, why, and how it works).

Ex. Testing questions for causal link “Appropriate transportation is available”:

- What proportion of female staff report being able to find a bus within 30 minutes?
- What proportion of vaccination sites are served by a bus route?
- New: Do drivers always accept the voucher?

The final articulation of questions or indicators should be informed by available data sources. For example, the team knew it could be easy to do an informal, verbal group survey<sup>i</sup> during the weekly campaign staff meeting. They also knew it might be possible to build additional questions into the supervisors’ monitoring checklists, to enable real-time data collection of these new indicators. They also updated microplans to include the question of whether the vaccination site was on a bus route. Considering these feasible data sources, they updated the questions as follows:

Original question	New question
<b>What proportion of female staff report being able to find a bus within 30 minutes?</b>	No changes, plan to ask in staff meetings
<b>Do drivers always accept the voucher?</b>	No changes, plan to ask in staff meetings
<b>What proportion of vaccination sites are served by a bus route?</b>	Revised: Is this vaccination site served by a bus route? (to add to microplan and supervisor monitoring form)

The team realized, however, that in asking the verbal survey questions to staff during a meeting, they would not be able to link transportation challenges (or improvements) with site-level outcomes, which was important to demonstrate the effect of the intervention. The most feasible way of making this link would be through supervisors’ monitoring forms, so they added three simple questions which could help assess whether transportation remained a challenge:

- Vaccinator was over 30 minutes late for scheduled session (yes/no): \_\_\_\_
- Vaccinator reported challenges in finding transportation (yes/no): \_\_\_\_
- Vaccinator reported delays once on the bus (e.g. additional stops, inefficient route, etc.) (yes/no): \_\_\_\_

i. Be sure to follow all local or institutional human subjects research and research ethics policies.



## Your turn

Using the blank decision-maker mapping tool from 3.1, list your top 3 strategic questions here:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Write the causal links with the greatest uncertainty here:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

What are the actionable rapid cycle testing questions you will set out to answer?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Step 4 will provide tools and resources for identifying the most appropriate data sources and data collection approaches to answer these questions during a campaign.

## Collect data

At the end of Step 3, you prioritized which information you would need to be successful, articulated as actionable testing questions. In this step, you will develop a data collection and analysis plan that is fit-for-purpose (e.g., timely, feasible, affordable) and produces information required to make strategic decisions. Like the other steps, this step's success depends in part on knowledge of the testing context and feedback from diverse perspectives.

Who should be involved? In addition to the existing recommended team, this step should most certainly include staff who are responsible for designing or implementing monitoring or data collection systems, or those involved in the analysis and interpretation of data. While this step doesn't include the analysis (see Step 5), effective analysis and interpretation require the right data, so it is important to include those analysts as stakeholders or team members.

### **This step is critically IMPORTANT because:**

- Strategic decisions should be based on data or evidence (in its many forms) and this step helps to identify the most strategic data to collect/measure.
- Many readers will come to this toolkit with extensive background in measurement, data collection, analysis, evaluation, etc. This step reminds us to think somewhat differently about which data are needed and how to collect them, keeping in mind the principles of REAL.

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## 4.1 Develop a data collection plan with indicators and data sources

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In this step, we will convert the actionable testing questions into measurable indicators. Aligning these with existing indicators, for example those collected through routine campaign monitoring, can save time and avoid the need for new questions or data collection tools.

Indicators should be feasibly measured, whether through existing systems (e.g., routine campaign monitoring systems) or simple primary data collection (e.g., focus group discussions). Other innovations exist—depending on the context—such as robocalls, observation, meeting voting, etc.

The timing of measurement should align when the result is expected to occur. In the India case, whether a driver accepts a voucher can be measured immediately (or when is first convenient to do so) and does not need to wait. In the DRC case, the

causal chain involving the new staff payment system was expected to take longer to produce results and there was acknowledgement that ongoing monitoring would be necessary to determine whether positive results persisted (Annex 1).

In India, the team fairly easily converted the actionable testing questions into measurable indicators (see Table 2 for illustrative data collection plan). In Step 3, they had already refined some to be more easily measured and had based their decisions on knowledge of data sources. The team agreed to collect and look at data as frequently as possible. These were the types of changes that should produce immediate outcomes, and if they weren't, the team would refine the change.

It is important not to lose track of contextual factors. The team agreed that the member who volunteered to own the context tracker (see Annex 3) should continue to update it and take notes. She also offered to use that tool to record informal conversations with bus drivers or campaign staff about the new program and how it was working.

**Table 2. Illustrative data collection plan.**

New question	Indicator	Definition	Data source	Frequency of data collection
What proportion of female staff report being able to find a bus within 30 minutes?	Proportion of female staff able to find a bus within 30 minutes.	<p><b>Numerator:</b> # female staff who raised hand in agreement when asked if they had tried to find a bus, and found one within 30 minutes that morning</p> <p><b>Denominator:</b> # female staff who raised hand in agreement when asked if they tried to find a bus that morning</p>	Staff meeting voting	Bi-weekly (each meeting)
Do drivers always accept the voucher?	Proportion of voucher attempts that are successful.	<p><b>Numerator:</b> # female staff who raised hand in agreement when asked if they had tried to pay a driver with a voucher that morning, and he accepted it</p> <p><b>Denominator:</b> # female staff who raised hand in agreement when asked if they tried to pay a driver with a voucher that morning</p>	Staff meeting voting	Bi-weekly (each meeting)
Revised: Is this vaccination site served by a bus route? (to add to microplans and supervisor monitoring form)	Vaccination site served by a bus route.	Yes/No	Supervisor forms	At each site visit
Do campaign staff arrive on time?	Proportion of campaign staff that arrive on time.	<p><b>Numerator:</b> # staff who arrive on time in a given day</p> <p><b>Denominator:</b> # staff assigned to a campaign post in a given day</p>	Supervisor forms	At each site visit

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## 4.2 Work with systems owners to integrate indicators/fields into data collection tools and processes

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Early in the process, it is important for the team to note all potential data collection systems and tools in use and whether opportunities exist to alter or add data collection fields. Not only is it important to be able to record the data collected, it is also important to be able to view or export the data for analysis. During this step, teams should think carefully about how they plan to look at the data and which analyses they may be performing. Teams should explore the ease of running reports or exporting data from routine systems, whether they need someone's support to do this, and how frequently this could occur.

For planned changes occurring prior to the launch of a campaign, the team should quickly engage with the individuals or organizations responsible for the data collection systems and tools.

### Qualitative data

As noted earlier, teams should be aware of and align with local Institutional Review Board (IRB) policies. In most cases, this type of work is considered routine program monitoring, and thus non-human subjects research. However, the team must think very carefully about whether any of the data could put campaign staff at personal or professional risk (e.g., through highlighting poor performance) or whether even casual conversations with campaign staff could introduce power imbalances and risks.

In India, the team included the IMI monitoring and evaluation (M&E) lead, who had full editor control of the campaign monitoring data collection application. She was able to add a new field to the digital supervisor form to capture data for the third indicator. To facilitate data collection and recording at the staff meeting (via voting), one team member marked themselves responsible for creating and managing a spreadsheet to keep track of numerator and denominator for each indicator at each staff meeting. He asked another team member to help with the counting at each meeting.

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## 4.3 Implement data collection and look for trends

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In REAL, data collection should begin as soon as is feasible but with attention paid to being efficient. For example, not all indicators may need to be collected immediately—timing may depend on the staging of expected results in the causal chain.

Training or supervision checks may be necessary before launching data collection. If routine reporting is modified, campaign data collectors (including staff and supervisors – whoever is using the modified tools) should be trained on how to enter new data and why they are being asked to do so. If additional support is used to implement qualitative data collection, training should focus on being flexible to answer the testing and strategic questions. Most qualitative data collectors will appreciate reading this toolkit to understand the larger context for this approach.



Once data collection has started, teams should look at the data to ensure there are no quality issues related to data collection or entry. Common data quality checks include (CDC, nd):

- **Completeness:** proportion of stored data against the potential of 100% complete.
- **Timeliness:** the proportion of stored data submitted on time.
- **Validity:** data are valid if it conforms to the definition for that data.
- **Accuracy:** the degree to which data correctly describes the “real world” event.
- **Usefulness:** for qualitative data, is the data collection useful in answering the testing questions and strategic questions? If not, data collectors may need additional coaching on how to frame questions, how to follow up with probes, etc.

Depending on the change, and the data and recording frequency, teams should begin to look for trends immediately. In the India case, the M&E lead managed to update the supervisors’ monitoring app within a few days to include the new field which was timed with a planned supervisors’ meeting where he explained the change. The team member responsible for recording contextual factors decided to go out on the first day of the change to try herself to use vouchers to see whether they were accepted. Three of four were immediately accepted, and the fourth driver accepted it as soon as she explained the scheme. During the first staff meeting, the team asked the survey questions and discussed the results immediately after the meeting.

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## 4.4 Adapt and iterate data collection

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Ongoing adaptation of questions, indicators, and data collection tools is encouraged. Adaptation should be based on:

- Experiences implementing the data collection plan.
- The need to respond to new information.

### Implementation lessons

Constant reflection and discussion should help identify whether the data collection plan is producing the information needed. If not, tweak it. This is not a research study, and thus there is no harm changing an actionable testing question mid-course to better be able to respond to strategic questions.

### Need to respond to new information

The logic model is dynamic, and as the change is implemented, the team may identify new assumptions and contextual factors or observe other causal links or unexpected consequences. The best practice is to continue to iterate on the logic model and cycle through the entire rapid cycle testing process to update what needs to be measured and how.



**Your turn** Based on the illustrative data collection plan in Table 2, propose a data collection plan for your campaign change.

New question	Indicator	Definition	Data source	Frequency of data collection

## *Use data for adaptive management*

In Step 4, you collected data for a carefully selected set of indicators. In this step, you will use the data to answer the initial strategic questions posed in Step 2 so that you or other decision-makers can make the necessary decisions to scale up, scale down, or continue to refine the change.

Your choice of analytic approach will depend on your strategic questions and decision-making needs. Upon reading this section, you may be inspired to go back to Steps 2 or 3 to refine your strategic questions, testing questions, or data collection plan and indicators.

As with all the other steps, Step 5 should be happening continuously until you have the information needed to take a strategic decision about the change. And although you are able to make a strategic decision, it doesn't necessarily mean you are done collecting and analyzing information. At the end of this step, you will learn how to transition from a testing mentality to a change management mentality.

### **This step is critically IMPORTANT because:**

- Many methods and approaches exist to analyze data and produce actionable, synthesized evidence from that data. This step will help to identify which approach is appropriate to support strategic decisions related to your change.
- In public health, epidemiology, and other fields related to campaigns, we tend to produce wonderful evidence that is not followed by the appropriate actions and decisions. This step will help you turn evidence into action—not only in terms of refinements to the campaign change but also in terms of broader evidence-informed decision-making for improving campaigns.
- Ongoing analysis and interpretation of data will support the ethos of adaptive management and continuous quality improvement.

## 5.1 Identify appropriate analytic methods for each strategic question

There are many different analytic approaches you can use to turn your quantitative or qualitative data into actionable insights.<sup>ii</sup> As you decide on approaches, keep in mind the strategic question you are trying to answer as well as decision-makers' evidence needs and leverage existing meetings with key decision-makers to vet your approach (see examples, Table 3).

This step is one that should be done together with other question development and data collection steps as it may identify new data that are needed.

**Table 3. Examples of analytic approaches for various strategic questions.**

Question	Quantitative	Qualitative
Does the change produce its intended effect?	Basic descriptive statistics (means, proportions, trends) Tests of differences across time or groups (e.g., if controls exist)	Case study approaches: → Content analysis / thematic analysis
Why or how does the change produce its intended effect? → How could the change be scaled up? → How could the change be transferred to another setting?	Associations between level of change and outcomes Regression analysis to disaggregate effect of the change	Case study approaches: → Middle-range theory → Thematic analysis → Context mapping
How can we further improve the process?		RCA (companion toolkit) and human-centered design approaches for iterating
What does the change cost?	Costing, budget impact analysis	

The India team knew they would need to use a mix of quantitative and qualitative analyses to answer their strategic questions. They started by discussing how to best measure whether the change led to the intended result: an increased proportion of staff who arrived on time. They decided to plot that indicator over time from the daily monitoring data. They prepared an Excel line graph to do so and planned to use a Z test (a statistical test of differences in proportions) to test whether the change from pre-intervention to post-intervention (one and two weeks following implementation) was statistically significant.

The team knew it would also be important to visualize the entire causal chain, particularly if they did not observe a change in the results, in order to identify the 'blocked' link in the causal chain. They prepared an Excel graph of cascading bars to help with this analysis.

Finally, they planned to draw from the observations captured in their context tracker to explain why and how the intervention worked and key contextual factors that influenced outcomes.

## 5.2 Carry out the analysis

Plan for who will be responsible for the analysis and whether the team includes the right skills. Depending on the analytic approach, this might happen continuously (see Step 5.3).

ii. See for example Figure 3 in Mazzucca et al., (2018) for a helpful decision tree to choose among experimental and quasi-experimental study designs.

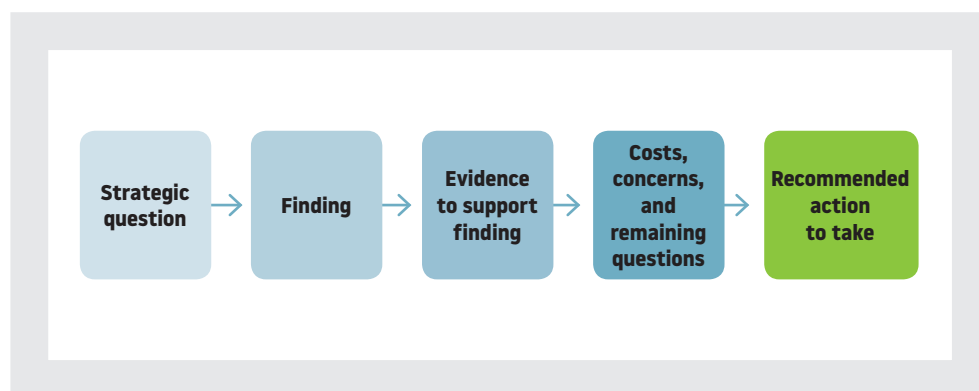
## 5.3 Take action based on information

During the first two days of the change, the India team realized that the change was largely successful but that a small proportion of villages were simply not served by existing transportation networks. Unfortunately, the microplans had not collected this information, so it was difficult to predict which villages required a private taxi service for the staff to get there. This resulted in the following refinement:

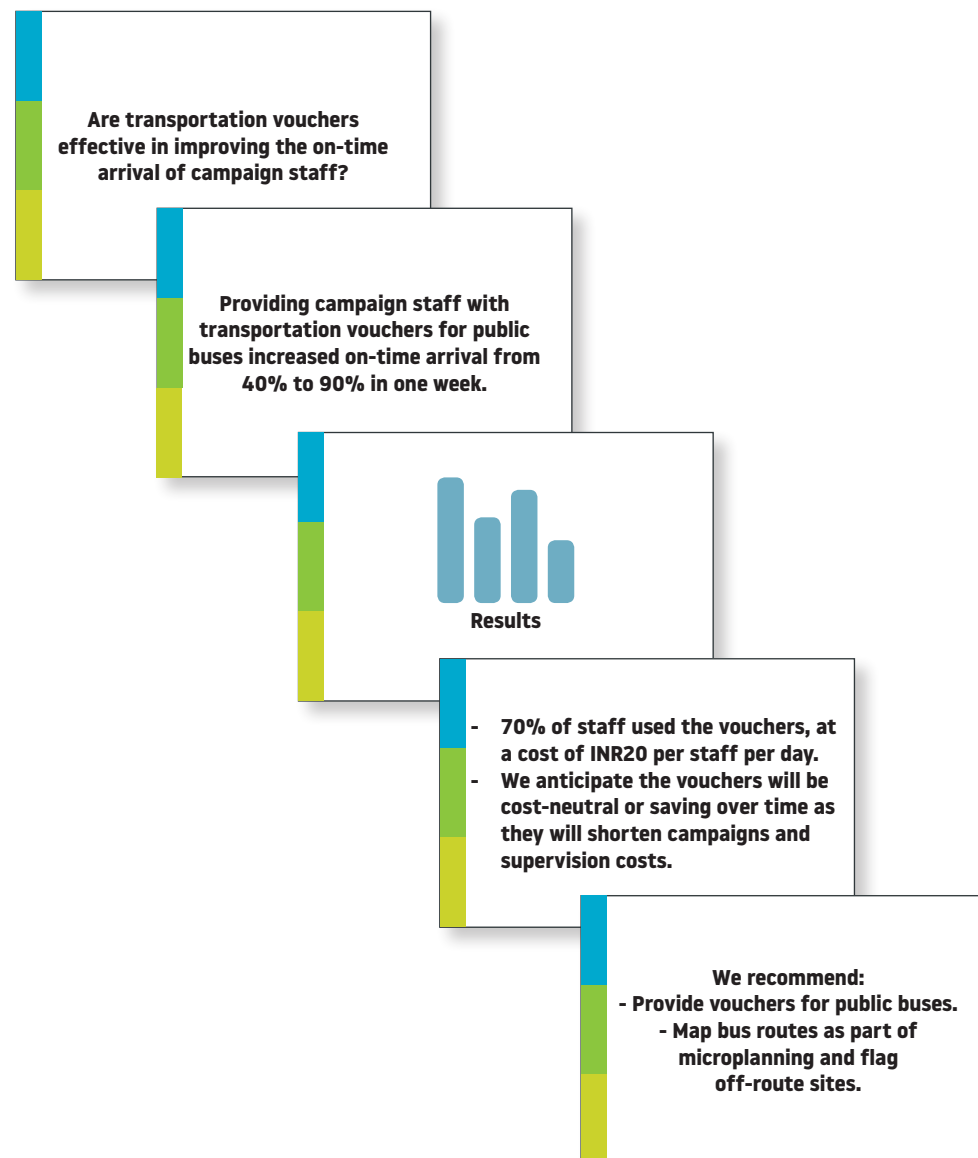
- A field added to the microplan template for future campaigns asking whether the village was served by an acceptable bus route.
- The logistics coordinator worked with Auxiliary Nurse Midwives (ANMs) to identify which villages were not on bus routes and thus would require a taxi during this campaign phase.

## 5.4 Summarize findings for strategic questions to key decision-makers

You involved key decision-makers in the choice and articulation of strategic questions, and now it is time to provide the answers to those questions. For each question or sub-question, you will want to provide the following information:



In the case of India, the team prepared a short slide presentation for key decision-makers for each strategic question. For example, they framed their content for the strategic question “Are transportation vouchers effective in improving the on-time arrival of campaign staff?” as follows:



## 5.5 Transition to a change management mentality

Congratulations! You have collected, analyzed, and shared information to make a strategic decision about a campaign change. But the measurement and analysis are never over, nor is the pursuit of improvement.

**If...**

**...Then**

You found the change was not producing the intended effect, but interest remains in solving the bottlenecks.

**Iterate on the change**

Re-assess the causes of the challenge, particularly now having observed the context and issues for more time. Do you need to bring in different/new stakeholders or ideas? Revisit the logic model and its assumptions; go back to brainstorming ideas and solutions.

You found the change was not producing the intended effect and decision-makers opted to scale it down or halt it.

**Record and disseminate learnings**

Learning from failure is just as important—or more important—than learning from success. Try to record and disseminate lessons from this change and why it did not work so that others in similar situations can learn from your experience.

You found the change produced the intended effect and decision-makers opted to continue it.

**Shift to a change management approach**

You likely developed new tools and systems to collect information and use it. You should continue to use new information to refine or improve the change and its implementation.

You found the change produced the intended effect and decision-makers opted to scale up or replicate it elsewhere.

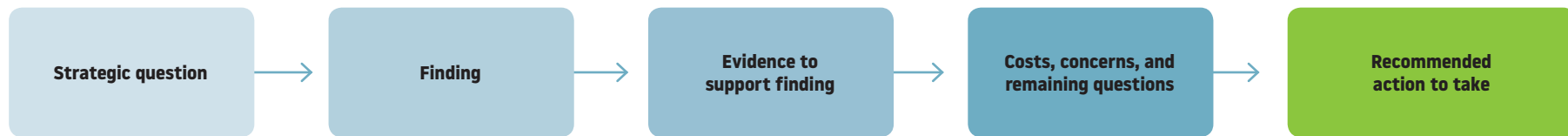
**Revise the testing approach for a new context**

You have the core tools and information needed to test the change anywhere: a logic model, strategic questions, and testing questions. However, these will all need to be refined for a new context and applied again. If the new context is not very different, or you found the change was not highly context-sensitive, you will need to make fewer refinements. If you cannot be involved in testing in the new context, package your learnings and tools for colleagues in the new context.



## Your turn

For each strategic question, discuss each heading as a group.



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## Conclusion

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This toolkit describes an approach to rapid evaluation, action, and learning (REAL). REAL aims to improve the timeliness and relevance of information collected through monitoring and evaluation information to help inform strategic decisions about whether to scale up, scale down, or transfer a change. While this toolkit was written primarily to assess changes made to health campaigns, the principles can be transferred to other health or non-health changes.

The overall message we hope to convey is that timely and fit-for-purpose evaluation is feasible and should be done as part of a culture of continuous measurement and learning. Evaluation need not be onerous and time-consuming, but can generate real-time and useful information to act on. In applying the five steps of REAL, we hope that users will not only have more and better information on whether, why, and how their change works, but will also be able to improve the change as it is implemented, leading to higher impact public health interventions and changes.

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## References

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1. Britt, H., Hummelbrunner, R., & Greene, J. (2017). Causal Link Monitoring. Retrieved from [http://www.betterevaluation.org/resources/overview/Causal\\_Link\\_Monitoring](http://www.betterevaluation.org/resources/overview/Causal_Link_Monitoring).
2. Burchett, H. E. D., Blanchard, L., Kneale, D., & Thomas, J. (2018). Assessing the applicability of public health intervention evaluations from one setting to another: a methodological study of the usability and usefulness of assessment tools and frameworks. *Health Research Policy and Systems*. 16(1), 88. <https://doi.org/10.1186/s12961-018-0364-3>
3. CDC. (2017). Program Evaluation Framework Checklist. Retrieved from <https://www.cdc.gov/eval/steps/step1/index.htm>
4. Centers for Disease Control and Prevention (CDC). (n.d.). The Six Dimensions of EHDl Data Quality Assessment. Retrieved from CDC website: <https://www.cdc.gov/ncbddd/hearingloss/documents/DataQualityWorksheet.pdf>.
5. Collins, L. M., Ph, D., Baker, T. B., Ph, D., Mermelstein, R. J., Ph, D., et al. (2011). The Multiphase Optimization Strategy for Engineering Effective Tobacco Use Interventions. *Annals of Behavioral Medicine*. 41, 208–226. <https://doi.org/10.1007/s12160-010-9253-x>.
6. IDEO.org. (2015). *The Field Guide to Human-Centered Design* (1st ed.).
7. Kainz, K., & Metz, A. (2015). *An Integrated Embedded Research Agenda for Agile Implementation Frameworks* (Working Draft).
8. Mazzucca, S., Tabak, R. G., Pilar, M., Ramsey, A.T., Baumann, A. A., Kryzer, E., et al. (2018). Variation in Research Designs Used to Test the Effectiveness of Dissemination and Implementation Strategies: A Review. *Frontiers in Public Health*. 6. <https://doi.org/10.3389/fpubh.2018.00032>.
9. Seth, A., & Menon, R. (2019, April 24). A shot in the arm: why engaging with a range of stakeholders matters. Retrieved from Evidence Matters Towards equitable, inclusive and sustainable development website: [www.3ieimpact.org/blogs/shot-arm-why-engaging-range-stakeholders-matters](http://www.3ieimpact.org/blogs/shot-arm-why-engaging-range-stakeholders-matters).
10. World Health Organization (WHO). (2014). *Implementation Research Toolkit Workbook*. Retrieved from WHO website: [https://apps.who.int/iris/bitstream/handle/10665/110523/9789241506960\\_Workbook\\_eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/110523/9789241506960_Workbook_eng.pdf).



## Annex 1. DRC HAT case study



### DRC CASE EXAMPLE OVERVIEW

#### Case Example Overview: DRC's Human African Trypanosomiasis Elimination Initiative

The Democratic Republic of the Congo (DRC) Human African Trypanosomiasis Elimination Initiative example was introduced in the RCA toolkit. Here we extend the DRC case to provide an end-to-end “how to” example for operationalizing the five-step approach to rapid evaluation, action, and learning (REAL).

Human African trypanosomiasis (HAT), also known as sleeping sickness, is a vector-borne disease transmitted by the bite of tsetse flies carrying *Trypanosoma brucei* protozoan parasites<sup>1</sup>—if left untreated, HAT is often fatal. Although HAT is endemic to 36 countries in Sub-Saharan Africa, over 98 percent of cases occur in West and Central Africa from the *T. b. gambiense* parasite sub-species, and over 70 percent of reported cases are found in the DRC, where an estimated 53 percent of the population lives in areas considered at-risk for HAT infection.<sup>1-3</sup> The World Health Organization (WHO) is leading global efforts to eliminate HAT by 2020, with an elimination strategy that hinges on interrupting the disease transmission cycle through broad testing and treatment of people living in areas of risk—an approach supported by the development of new rapid diagnostics for detecting HAT<sup>4</sup> and registration of Fexinidazole, the first all-oral drug that treats all stages of the disease.

In line with DRC's commitment to the London Declaration on Neglected Tropical Diseases, the Ministry of Health and the National Control Program for Human African Trypanosomiasis (PNLTHA) developed a National Strategic Plan to eliminate HAT by 2020. The strategy draws upon new tools and technologies, including: rapid diagnostic tests, insecticide-treated traps for tsetse fly vector control, an awareness-raising advocacy campaign, digital technology for finding and confirming new cases, and mini-mobile teams to provide door-to-door HAT screening in high-risk areas of remote provinces.<sup>5</sup> The new approaches appear to be working to bring the country closer to elimination: the latest data indicates the number of HAT cases in DRC declined from 1,200 in 2017 to 650 in 2018.<sup>6</sup>

However, aspects of the HAT elimination initiative in DRC have faced numerous challenges that have required problem solving and subsequent implementation tweaks. In addition, a consortium of international partners has supported the development and introduction of innovative approaches to improve the effectiveness of the HAT elimination strategy.

DISCLAIMER: While DRC did not utilize the five-step approach to rapid evaluation, action, and learning described in this toolkit, we adapted this case as a *hypothetical scenario* for illustrating the application of each step. In Toolkit 1, root cause analysis was used to determine why the HAT campaign was not on track to meet the elimination targets. Here we focus on two of the root causes and how the DRC team could have implemented the five-step REAL approach to test solutions.



## Toolkit 1 summary: Identifying critical campaign challenges and diagnosing bottlenecks

In Toolkit 1, the DRC team identified several root causes of why the HAT elimination initiative was not on track to meet targets. They assessed the actionability and potential impact of each root cause to determine which bottleneck to prioritize and address first. As depicted in the root cause analysis (RCA) pathway below, a key challenge is that HAT campaigns are missing opportunities for diagnosis and treatment, which is in part due to reduced effectiveness of the mobile screening teams (Figure A1). The effectiveness of the mobile screening teams has been compromised by two key factors:

01. Low motivation among HAT campaign staff due to delayed and incorrect payment.
02. Inefficient mobile route planning and targeting which misses at-risk villages due to reliance on hand-drawn maps of village locations. These maps are not drawn to scale. Additionally, an estimated 20 percent of villages in DRC are unknown/unmapped due to the difficult geographical terrain.

**Figure A1. RCA diagram to understand why DRC is not on track to meet their HAT elimination target.**

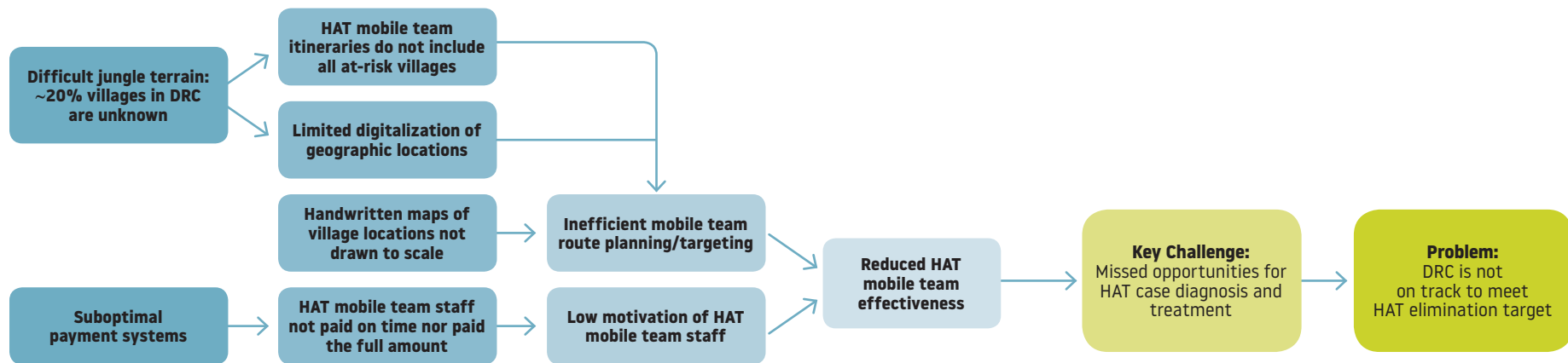


Figure A1 depicts the two primary root causes of DRC's inability to meet HAT targets, that is:

- » The suboptimal payment system.
- » The difficult terrain, some of which is unknown/unmapped, and therefore not targeted by HAT mobile teams.

**Analysis of the outcome of the RCA**

These two primary root causes were analyzed to determine whether they could be resolved, using “actionability” and “impact” as criteria. Table 4 shows the outcome of this analysis:

**Table A1: Assessment of potential actionability and impact of addressing root causes.**

Primary root cause	Actionability	Impact	Comment
<b>Suboptimal payment system</b>	<b>Moderate</b>	<b>High</b>	Payment delays and incorrect payments are large contributors to low worker motivation, but this is challenge is difficult to address because it requires escalation to the national level to introduce system-wide changes. In addition, some stakeholders have a vested interested in maintaining the status quo.
<b>Difficult terrain (up to 20% of the country unknown and/or unmapped)</b>	<b>High</b>	<b>High</b>	Technical solutions to address the bottleneck exist at a moderate cost (e.g., digitalization of geographic locations); political will and interest in digital health solutions exists; and addressing the root cause will be high impact given it is a country-wide barrier and a major contributor to inefficient HAT mobile team planning.

**DRC Team resolution, action, and outcome**

The DRC team decides to first focus on addresssing the payment system by developing and launching the mobile money payment system for HAT mobile screening team staff.

In parallel, two technical partners collaborate to support DRC in undertaking rapid digitalization of priority geographic locations targeted for HAT mobile screening initiatives. The HAT mobile screening teams were accordingly provided with the new digital maps. However, the teams were still having issues with efficient route planning.

To assess whether the mobile payment system and digital maps are resulting in the desired outcomes, the DRC team decides to apply the rapid evaluation, action, and learning approach.



## Rapid Evaluation, Action, and Learning (REAL)

Here we present a hypothetical scenario for how the DRC team could apply the five steps of rapid evaluation, action, and learning to address both the suboptimal payment system and the use and usefulness of digital maps for efficient route planning by mobile screening teams.

### **Step 1. Identify a change to address challenges**

At the national level, the DRC team convened a diverse set of stakeholders to help brainstorm what change(s) could be implemented, keeping in mind cost, feasibility, and acceptability considerations. Stakeholders included partners, government officials, implementers of the HAT mobile screening strategies, and other health system actors with technical knowledge of the government payment processes for health care workers. Through discussion and debate, the stakeholders reach consensus around implementing several changes:

- » Mobile money payment system to ensure prompt payment.
- » Refresher training on digital map reading skills for all mobile screening team members to ensure their optimization of the digital tools.
- » Monthly meeting between the HAT health zone-level supervisor and mobile screening teams to coordinate route planning for the 21-day missions.

While not all stakeholders are on board with these changes, there was enough consensus and buy-in from key actors to move forward with the rapid evaluation, action, and learning approach on a smaller scale (a few health zones) to assess whether the changes effectively address the root causes and should be scaled nationally to support the HAT elimination initiative.

### **Key takeaways from Step 1:**

- » Engage diverse and knowledgeable stakeholders to select intervention(s).
- » Consider COST, FEASIBILITY, and ACCEPTABILITY.
- » NOT every stakeholder will agree; aim at getting the view of the majority and building consensus.

**Step 2. Build a logic model for the change**

The second step of rapid evaluation, action, and learning is composed of five components:

**2.1 Describe the change(s):**

- » Payment of HAT mobile screening staff using mobile money system.
- » Refresher training on digital map reading skills for HAT mobile screening staff.
- » Monthly health zone coordination meeting for mobile screening team route planning.

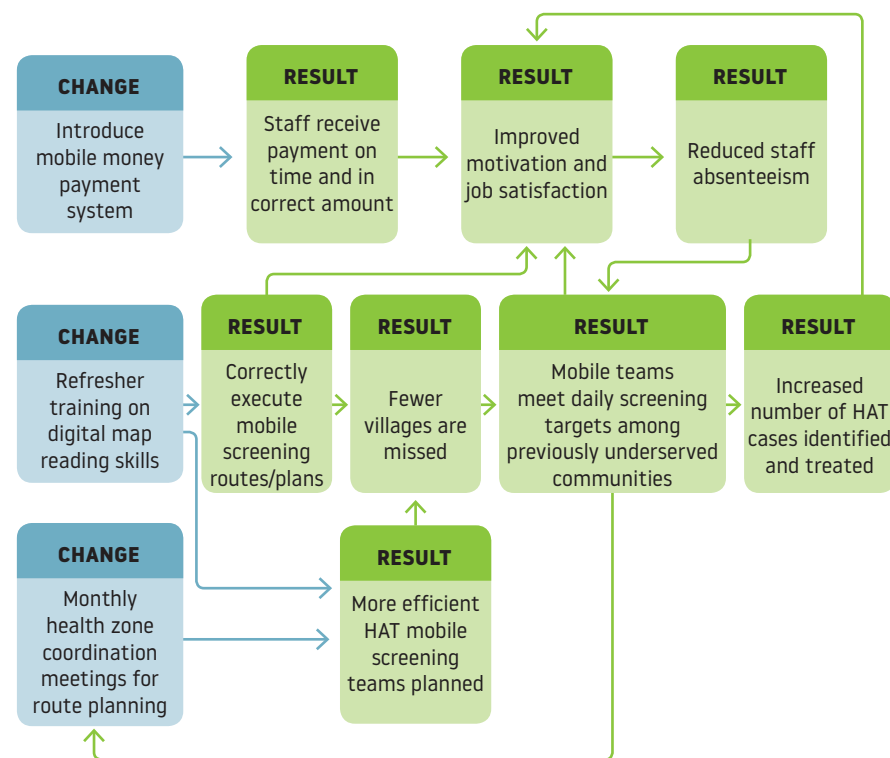
**2.2 Describe the intended outputs and outcomes of the change:**

The DRC team spent a few minutes brainstorming intended results stemming from the changes:

- » Payment of HAT mobile screening staff using mobile money:
  - HAT mobile screening team staff receive payment on time.
  - HAT mobile screening team staff receive correct amount of payment.
  - Reduced absenteeism.
  - Improved motivation and job satisfaction.
  - Improved number of clients screened in target villages.
- » Refresher training on digital map reading skills for HAT mobile screening staff:
  - Improved digital map reading skills.
  - Improved ability to execute mobile screening routes/plans.
- » Monthly health zone coordination meeting for mobile screening team route planning:
  - More efficient routes are planned.
  - Greater number of target villages reached with mobile screening.

Next, they developed a results chain to show the linkages between the change and the intended results (intermediate and longer-term), including any anticipated feedback loops where achieving one result may influence an earlier result. The process of developing the result chain required many rounds of reordering and iteration using sticky notes before arriving at the following logic model (Figure A2).

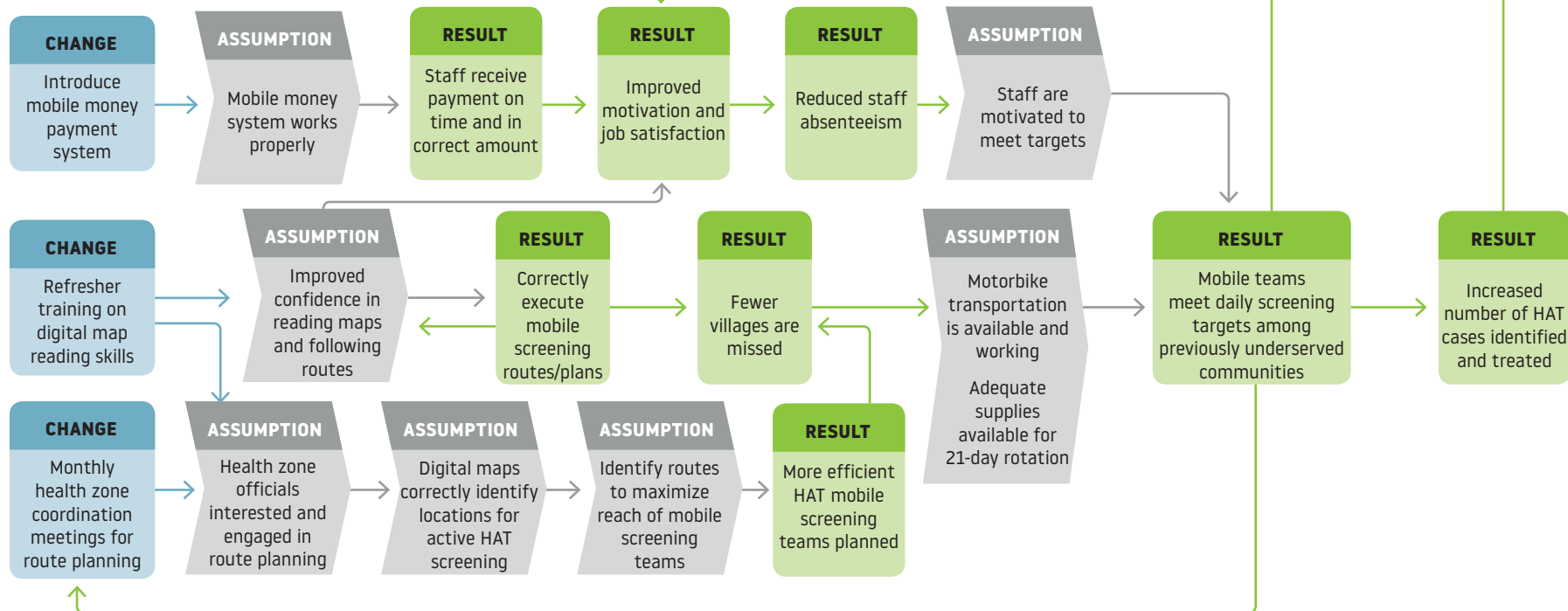
**Figure A2. Draft logic model highlighting linkages between intervention changes and results.**



### 2.3 Unpack assumptions in the causal links

In this step, the DRC team unpacked the assumptions between the change and the result(s) it is intended to produce. The team reviewed their original logic model above and determined that a few key assumptions were missing from the results chain. Through discussion they agreed on which key assumptions to include and developed a revised logic model (Figure A3). By going through this process, the team realized that each change depended on one or more assumptions before a result would occur. They also noted critical feedback loops whereby the achievement of a result could reinforce earlier results along the chain. For example, meeting daily screening targets for mobile teams would likely reinforce motivation and job satisfaction among the screening staff. In addition, the DRC team noted that sometimes the timing of one assumption or result depended on earlier ones. This is evidenced by the length of the results chains, where the team determined up to four intermediate results were needed before achieving the main target result of increasing identification and treatment of HAT cases. The team concluded that if they had implemented the changes without thinking them through, they may not have realized their intended results.

**Figure A3. Revised logic model to include key assumptions.**



## 2.4 Seek other perspectives and contextual factors

The team convened a meeting to get feedback on the draft logic model and key assumptions. They invited multiple stakeholders that had been involved in the original change discussions, representing different levels of the health system and diverse perspectives from implementers, planners, partners, and the HAT mobile screening teams. The stakeholders raised additional points for consideration:

- » The link between improved motivation/job satisfaction and staff absenteeism is likely more complex: at the health zone-level, there may be other contextual factors related to absenteeism (e.g., concerns about Ebola) that are important to consider.
- » What aspects are important to ensuring the mobile money system works properly? For example, are there enough cash points conveniently located for mobile team staff to easily access payments? Do the cashpoints consistently carry enough money to pay mobile team staff? How will the mobile money payment system be maintained to ensure optimal performance?
- » The monthly health zone coordination meetings need to ensure route planning is embedded within microplanning and considers key contextual factors (local environment, norms, and preferences). For example, a key assumption is that digital map data can be used to support development of realistic microplans. For villages that have never been visited before (e.g., previously unknown/unmapped), extra time should be estimated for community sensitization.
- » Route planning should use the digital maps in conjunction with local knowledge on how best to sequence the villages (considering accessibility, roads, time), and considering any available data on the location of incident HAT cases.

Based on these discussions, the logic model was further refined to include reference to these additional considerations and contextual factors.

## 2.5 Iterative updating of the logic model

Through vetting the logic model with a diverse stakeholder group, the DRC team realized small revisions and adjustments may be needed in terms of how the change interventions are implemented. For example, the classroom-based refresher training on digital map reading skills is a necessary change but may not be enough, and the team is considering whether additional training modalities may be necessary (e.g., on the job supervision) to reinforce map reading skills. They opt to first try out the refresher training and assess whether it is producing the desired outcomes, or whether additional modalities are required.

### **Key takeaways from Step 2:**

- » Describe in clear terms the changes that the team wants to make.
- » Define the intended outputs and outcomes of the change(s), and develop a results chain to show the link between the changes and the intermediate and longer term results; this gives you the first draft logic model.
- » Review the draft logic model, critically analyzing assumptions in the causal link and revise the logic model accordingly.
- » Conduct a stakeholder review of the draft logic model and incorporate feedback.
- » Development of a robust logic model is an iterative process!



**Step 3. Prioritize what to measure**

**3.1 Agree on what information is needed for success**

Keeping in mind that not all causal links are necessary to measure, the goal of this step is to identify how to measure what will be needed to make a strategic decision to scale up, scale down, transfer, or not transfer the change.

The DRC team consider three likely decision-makers that will be interested in the rapid evaluation findings. Through knowledge of these stakeholders and informal interviews to understand their information priorities, the team mapped out level of interest in each of the questions below (Table A2). Based on this assessment, they decide to focus on answering whether the changes produce the intended effect (Q#1) for all three of the changes. They also decide to focus on answering how much the change costs for the mobile money payment system (Q#4). Given interest by international donors in scale and transferability, the team deliberates on whether to prioritize Q#2 and Q#6, but ultimately due to resource constraints decide to focus on collecting some limited information on how and why the intervention is working, which may help in understanding scale transferability later.

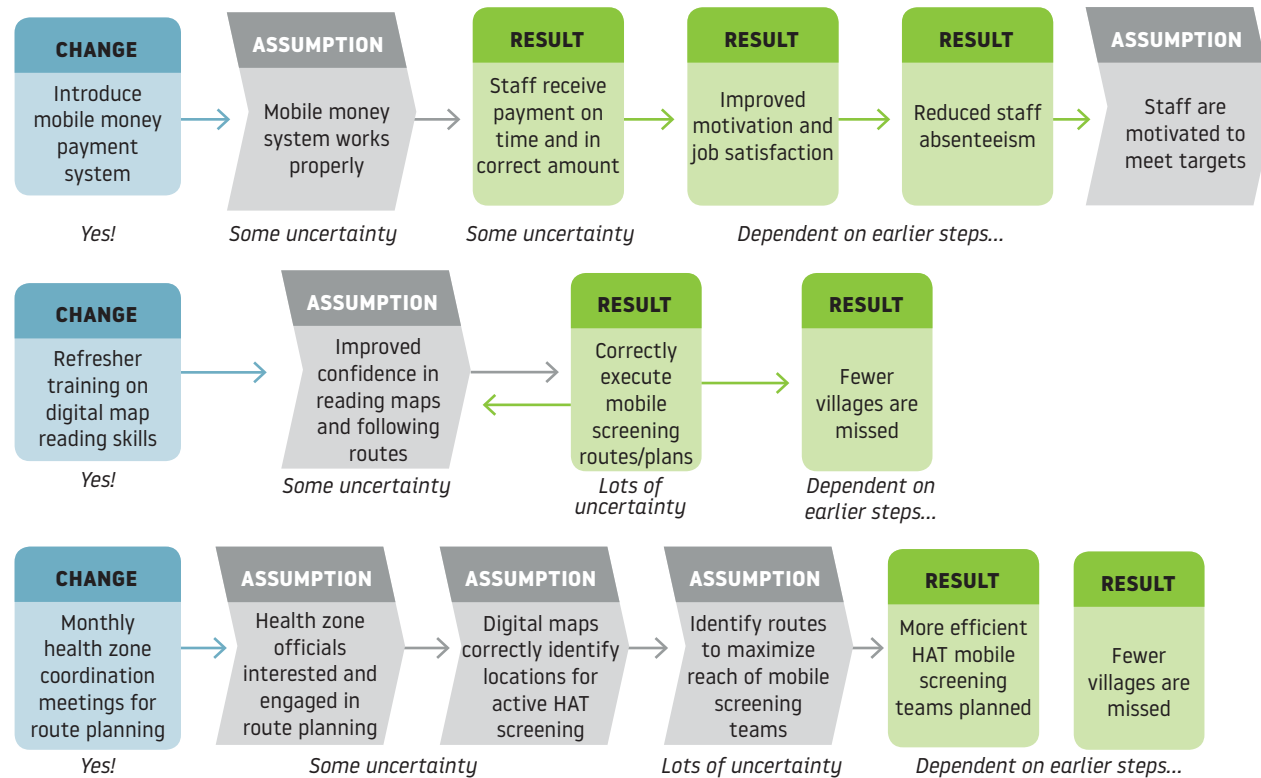
**Table A2. Comparison of information priorities for each type of key decision-maker**

<b>Question</b>	<b>BMGF Program Officer</b>	<b>Provincial Health Officer</b>	<b>WHO Surveillance Medical Officer</b>
<b>Does the change produce its intended effect?</b>	High	High	High
<b>Why or how does the change produce its intended effect?</b>	Med	Low	Med
<b>How can we further improve the process?</b>	Low	High	High
<b>What does the change cost?</b>	Low	High	Med
<b>How could the change be scaled up?</b>	High	Low	Med
<b>How could the change be transferred to another setting?</b>	High	Low	Low

### 3.2 Identify causal links with greatest uncertainty

A central feature of REAL is targeting the testing and measurement to a few priority areas instead of having to measure everything. Thus, the DRC team returns to their logic model to begin identifying the causal links with greatest uncertainty (Figure A4). Based on stakeholder buy-in for a mobile money feasibility pilot, they were confident the mobile money system would be developed and rolled out but were less confident that mobile screening staff would receive the correct amount of payment and receive the payment on time, so they decided to focus measurement on this proximal indicator of success of the mobile money payment system.

**Figure A4. Refined logic model pathways assessed for uncertainty.**



### 3.3 Combining the two criteria to clarify data to collect

In this step, the DRC team combines the strategic questions from step 3.1 above with the logic model's causal links with the most uncertainty to develop more operational, actionable testing questions and indicators. The team reworked the first causal link into actionable questions that would help answer their strategic questions (i.e. whether it works and how much it costs).

- » Ex. Causal link: HAT mobile screening teams receive payment on time and in the correct amount:
  - What proportion of HAT mobile screening staff receive payment on time?
  - What proportion of HAT mobile screening staff receive payment in the correct amount?
  - When HAT staff do not receive payment on time or in the correct amount, why not?
  - What are the fixed startup costs to introduce the mobile payment system?
  - How much does the mobile payment system cost to maintain over time?
- » Ex. Causal link: HAT mobile screening teams can correctly execute routes/plans using digital maps:
  - What proportion of HAT mobile screening staff can:
    - Correctly navigate digital maps following a refresher training course; and
    - Report feeling confident in their digital map reading skills
  - What proportion of target villages are reached for mobile HAT screening (per micro-plans)?
  - Why are some target villages still not being reached?
- » Ex. Causal link: Monthly health zone coordination meetings, in conjunction with digital maps, support efficient route planning:
  - To what extent are the digital maps supporting identification of villages that have not previously been visited by the HAT mobile screening teams?
  - How is local knowledge of terrain and accessibility being combined with digital maps and data on incident HAT to determine mobile screening routes?

#### **Key takeaways from Step 3:**

- » Only collect the information you require to make a strategic decision to scale up, scale down, transfer, or not transfer the change.
- » To identify what data you need to collect, consider your strategic questions AND causal links with the most uncertainty in the logic model.

**Step 4. Collect Data**

To support this step, the DRC team invites colleagues involved in monitoring, evaluation, analysis, and interpretation of data to think through the design of the data collection plan and approach. In Steps 4 and 5, we focus on only one of the intervention solutions introduced: the mobile payment system.

**4.1 Develop a data collection plan with indicators and data sources**

In this step, the DRC team converts the actionable testing questions into measurable indicators (Table A3). Since the mobile payment system was newly being introduced, they could not rely on existing indicators; however, by considering priorities for measurement, the monitoring and evaluation staff provided input on what indicators to build into the routine data monitoring of the mobile payment system.

**Table A3. Proposed data collection plan.**

<b>New question</b>	<b>Indicator</b>	<b>Definition</b>	<b>Data source</b>	<b>Frequency of data collection</b>
What proportion of HAT mobile screening staff receive payment on time?	Proportion of HAT mobile screening staff that receive payment on time. <i>*by on time, we mean it is received within 2 days of the screening event completion</i>	Numerator: # HAT mobile screening staff who received payment on time following the mobile screening event Denominator: # HAT mobile screening staff who participated in delivering the mobile screening event	Mobile money system: Compare date HAT screening event ended with date payment sent to accounts of HAT mobile screening staff and retrieved from cash points.	Monthly, following each round of HAT mobile screening events.
What proportion of HAT mobile screening staff receive payment in the correct amount?	Proportion of HAT mobile screening staff that receive payment in the correct amount.	Numerator: # HAT mobile screening staff who received payment in the correct amount Denominator: # HAT mobile screening staff who participated in delivering the mobile screening event	Mobile money system: Compare the amount of payment sent to accounts of HAT mobile screening staff to the standard payment amount.	Monthly, following each round of HAT mobile screening events.
When HAT mobile screening staff do not receive correct and/or on-time payment, what are the reasons?	Not applicable	Not applicable	Qualitative interviews to understand when and why payments not received on time or in correct amount.	Monthly for 3 months following initial rollout of mobile money payment system.
What are the fixed startup costs to introduce the mobile payment system?	Total cost to introduce the mobile money payment system.	Not applicable	Project records	Once
How much does the mobile payment system cost to maintain over time?	Total recurrent cost to maintain the mobile money payment system over time.	Not applicable	Project records	Once

### 4.2 **Work with systems owners to integrate indicators/fields into data collection tools and processes**

The DRC team worked with the mobile money payment programmers to ensure the prioritized indicators were incorporated into the system design and would be easy to view and export for routine analysis. By getting involved early in the design phase, the programming team provided initial prototypes of the data collection database, including snapshots of data exports and routine reports, for the DRC team to review. Through this process, the DRC team provided input on small tweaks to the data collection set up through the mobile money payment system. In addition, given the team's interest in the cost of this intervention, they were careful to collect and record all start up cost input information required to set up the mobile money payment system in the pilot area, as this evidence could help inform decisions around potential for scale-up.

### 4.3 **Implement data collection and look for trends**

To establish a relevant baseline comparison, while the mobile money payment system was being programmed and developed, the DRC team collected a 3-month baseline to determine the proportion of HAT mobile screening staff that received payment on time and in the correct amount. The DRC team knew this information would be very difficult and time consuming to collect because there was no routine system with the relevant indicators; while issues with the payment system were widely known and acknowledged, there was no systematic quantitative data that documented the extent of the problem. The DRC team therefore decided to conduct a short phone web-based survey among all HAT mobile team screening staff to gather information to provide a snapshot about the timeliness and accuracy of payment for the last two campaigns that the staff member had participated in (by shortening the duration of baseline, the team hoped to also limit recall bias). This approach required limited resources to set up and design yet provided enough data with appropriate rigor.

Introduction of the mobile payment system was expected to have an immediate impact on reducing delays in payments and ensuring HAT mobile screening staff received the correct payment amount. Therefore, as soon as the mobile money payment system was launched, the DRC team immediately began looking at the trends in the data through monitoring the routinely collected indicators in the payment system, including data quality checks of data completeness, timeliness, and accuracy.

### 4.4 **Adapt and iterate data collection**

Through routine data analysis, the DRC team determined that the mobile money payment system was increasing the proportion of HAT mobile screening staff receiving the correct payment amount. However, in the first two months following the payment system launch, it did not seem to have the intended effect on timely receipt of payment. To explore why, the DRC team decided to collect qualitative and process data about why and how delays in mobile payments occurred. They developed a short, semi-structured questionnaire guide on possible reasons for payment delays and devised a targeted approach that would be responsive to reported delays in payment receipt. They enlisted provincial-level HAT elimination staff to help in carrying out the qualitative data collection in areas where payment delays were longest and in areas where no payment delays occurred. Through comparing these two settings of higher and lower performance, the team aimed to determine the likely drivers of the delays. Collecting qualitative data can help to explain trends in qualitative data and can also be useful for documenting key contextual information that may relate to implementation success of a solution or intervention change.

## **Step 5. Use data for adaptive management**

### **5.1 Identify appropriate analytic methods for each strategic question**

The DRC team knew they would need to use a mix of quantitative and qualitative analyses to answer their strategic question: whether the mobile money payment system led to the intended result (increase in proportion of staff paid on time and in correct amount)? They developed an analysis plan to plot both indicators over time to visually compare the changes in trend lines—both overall at the national level and sub-analyses by provincial level. The provincial level analyses were prioritized as important given that qualitative data was revealing specific barriers and issues within specific provinces.

### **5.2 Carry out the analysis**

The DRC team's M&E officer conducted a Z test to compare whether there was a statistically significant increase in the proportion of staff paid on time and the proportion of staff paid in the correct amount, relative to the baseline. The quantitative analysis revealed certain provincial geographies that were underperforming. Based on the qualitative and process data, the DRC team began synthesizing information to help explain reasons for the underperformance. Through the analytical process, they determined several issues with HAT mobile screening staff being able to access payments from cashpoints. Although payments were sent to staff accounts on time and in the correct amount, in some areas, cashpoints were not conveniently located and/or did not have enough cash on hand to be able to pay the mobile screening staff, especially if multiple staff were trying to use the same cashpoint.

### **5.3 Take action based on information**

Based on the evidence, the DRC team decided they needed more information from decision-makers on how to address the challenges faced with accessing money from cashpoints. Therefore, they organized a meeting with key stakeholders and decision-makers to share their early findings and to elicit brainstorm ideas on how best to address issues related to cashpoint placement and the availability of funds at cashpoints. After reaching consensus around some small tweaks to implementation, the DRC team resumes monitoring the key indicators for another two months.

### 5.4 Summarize findings for strategic questions to key decision-makers

The team feels confident in their data/findings and prepares a short slide presentation to share findings with decision-makers about whether the mobile payment system is effective in improving on time payments, and payments in the correct amount, to HAT mobile screening staff. The team presents their key findings, the evidence in support of the findings, the related costs of establishing the mobile payment system, and recommended actions to take.

### 5.5 Transition to a change management mentality

After collecting, analyzing, and sharing information with decision-makers, the measurement process is not over! The team continues to use the routinely collected indicators to monitor performance. Based on their finding that the change produced the intended effect, in several provinces, the decision-makers have opted to continue the payment system but work to refine aspects of it before moving to national scale-up.

## References

1. WHO. Trypanosomiasis, human African (sleeping sickness) Fact Sheet. [https://www.who.int/en/news-room/fact-sheets/detail/trypanosomiasis-human-african-\(sleeping-sickness\)](https://www.who.int/en/news-room/fact-sheets/detail/trypanosomiasis-human-african-(sleeping-sickness)). Published 2018. Accessed February 4, 2019.
2. Simarro PP, Cecchi G, Franco JR, et al. Estimating and Mapping the Population at Risk of Sleeping Sickness. *PLoS Negl Trop Dis*. 2012;6(10). doi:10.1371/journal.pntd.0001859.
3. Rock KS, Torr SJ, Lumbala C, Keeling MJ. Quantitative evaluation of the strategy to eliminate human African trypanosomiasis in the Democratic Republic of Congo. *Parasites and Vectors*. 2015;8(1):1-13. doi:10.1186/s13071-015-1131-8.
4. Bessell PR, Lumbala C, Lutumba P, Baloji S, Biéler S, Ndung'u JM. Cost-effectiveness of using a rapid diagnostic test to screen for human African trypanosomiasis in the Democratic Republic of the Congo. *PLoS One*. 2018;13(9):1-18. doi:10.1371/journal.pone.0204335.
5. PATH. Eliminating a Devastating Disease in the Democratic Republic of the Congo. <https://www.path.org/resources/eliminating-devastating-disease-democratic-republic-congo/>. Published 2018. Accessed April 11, 2019.
6. PATH. PATH celebrates progress in fight against sleeping sickness in the Democratic Republic of the Congo. <https://www.path.org/articles/celebrating-progress-in-fight-to-eliminate-sleeping-sickness/>. Published 2019. Accessed April 11, 2019.

## Annex 2. Facilitation tool

*This facilitation tool is adapted from the “CDC Program Evaluation Framework Checklist for Step 1”<sup>1</sup> but has been adapted for REAL and health campaigns*

The first step in the CDC Framework approach to program evaluation is to engage the stakeholders. Stakeholders are people or organizations that are invested in the campaign or the change, are interested in the results of the evaluation, and/or have a stake in what will be done with the results of the evaluation. Representing their needs and interests throughout the process is fundamental to good program evaluation. A program may have just a few or many stakeholders, and each of those stakeholders may seek to be involved in some steps or all six steps. This checklist helps identify stakeholders and understand their involvement in the evaluation.

Although “Engaging Stakeholders” is the first of the 6 steps, the first three steps of the CDC Framework are iterative and can happen in any sequence. For instance, identifying the right stakeholders may make more sense to do for your evaluation after drafting the purpose, user, and use of the evaluation that happens in Step 3. That said, this checklist will help you think through the key points in identifying and engaging stakeholders throughout your evaluation.

**Brainstorm potential stakeholders.** These may include, among others:

- » People affected by your program, campaign, or proposed change.
- » People involved in implementing the program or conducting the evaluation.
- » People who will use the results of the evaluation. These may include internal staff, partners, program participants, community members, and other organizations, among others.

**In brainstorming the list be sure to think broadly,** including in your list:

- » People in the above categories who share your priorities, and people who don’t.
- » People in the above categories who are critics as well as supporters.



**Especially if the list is very long, try to extract the subset of most important stakeholders.**

Some helpful criteria for identifying whether a person or organization is a key stakeholder include that they:

- » Increase the credibility of your program or your evaluation.
- » Are responsible for day-to-day implementation of the program activities that are being evaluated and will need to implement any changes.
- » Can advocate for the changes to the program that the evaluation may recommend, OR actively oppose the recommended changes.
- » Fund or authorize the continuation or expansion of the program.

<sup>1</sup> <https://www.cdc.gov/eval/steps/step1/Step-1-Checklist-Final.pdf>



**Discuss with key stakeholders individually the best way to engage them**—in person, phone, email etc. Regardless of chosen medium, in the engagement discussions get clarity on the following questions: [NOTE: If a preliminary logic model for the change (Step 2) has been completed, then use it to help frame and target the questions.]

- » What do you see as the main objectives of the proposed change?
- » Which objectives are most important to you? That is, to retain your involvement and support, which objectives or results must be achieved?
- » What is needed to implement and ensure the success of the change?
- » What do you see as the most important evaluation questions at this time? [If outcomes are included]
- » How rigorous must the design be?
- » Do you have preferences regarding the types of data that are collected (e.g., quantitative, qualitative)?
- » What resources (e.g., time, funds, evaluation expertise, access to respondents, and access to policymakers) might you contribute to this evaluation effort?
- » In what parts or steps of this evaluation would you want to be involved?
- » All or just some specific ones? How would you like to be kept apprised of this evaluation?
- » How best to engage you in the steps in which you want to be involved?
- » (How) will you use the results of this evaluation?

Examine the results of the stakeholder discussion for insights related to development/refinement of the logic model (Step 2), questions you will measure (Step 3), and analysis plan (Step 4).

Especially if there are many stakeholders, summarize the results of the engagement discussions with a [simple or detailed as you prefer] plan for stakeholder involvement, including which stakeholders will participate/provide input during the major stages of the project and what their roles and responsibilities will be for each step.

## Annex 3. Context Tracker Tool

Instructions: Use this tool to track how contextual factors influence the realization of specific causal links, or of the overall effectiveness of the change. You can enter your own contextual factors. See Figure 5 for a list of contextual factors.

<b>Contextual factor</b>	<b>Key insights: How might this factor influence the realization of the causal link?</b>
<b>Socioeconomic</b>	
<b>Stakeholders</b>	
<b>Health system</b>	
<b>Institutional</b>	
<b>Cultural</b>	
<b>Political</b>	
<b>Physical/ environmental</b>	
<b>Others:</b>	

